DOCUMENT RESUME

ED 046 172 EC 031 256

AUTHOR	Vails, Iavolia W.; And Others
TITLE	ESEA Title III Special Education Projects: Fiscal Year 1970. Final Evaluation Report.
INSTITUTION	District of Columbia Public Schools, Washington, D.C.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
PUB DATE	Sep 70
NOTE	236p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$9.87
DESCRIPTORS	Aphasia, Deaf Blind, *Educational Programs, Emotionally Disturbed, *Exceptional Child Research, *Handicapped Children, Mentally Handicapped, Multiply Handicapped, *Program Evaluation, Rubella, Trainable Mentally Handicapped
IDENTIFIERS	District of Columbia, Elementary and Secondary Education Act Title III

ABSTRACT

Five experimental programs in the District of Columbia, which were implemented in 1968-69 and have served 116 handicapped children, are evaluated. The programs provided individualized instruction for aphasic, rubella, severely mentally retarded, seriously emotionally handicapped, and multiply handicapped children. A summary and a consultant's detailed evaluation of each program are included. The extent to which programs met their objectives, strengths and weaknesses, successes and failures are examined, and recommendations offered. Descriptive statistical data is included. Programs concentrated upon the development of linguistic and conceptual ability for aphasics, behavior modification principles in the emotionally handicapped program, the training of adaptive behaviors for the mentally retarded, and comprehensive education for the multiply handicapped deaf and the rubella children. (KW)

ED046172

DEPARTMENT OF RESEARCH AND EVALUATION

TITLE III ESEA - EVALUATION
SPECIAL EDUCATION PROJECTS

FINAL REPORT

The Division of Planning, Innovation and Re search
Department of Research and Evalatuion
September, 1970

EC 031 256 E

EC031256

ED046172

Final Evaluation Report

ESEA Title III Special Education Projects

Fiscal Year 1970

Coordinated under the direction
of the Division of Planning
Innovation and Research
Department of Research
and Evaluation

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Division of Planning Research and Evaluation
Department of Research and Evaluation
Special Education

Dr. Mildred P. Cooper - Acting Head
Mrs. Lavolia W. Vails - Coordinator of ESEA Title III - Evaluation
Miss Sadie D. Gaskins - Clerk

Advisory Council

Dr. Harlan Randalph, Chairman
Mrs. Gloria Roberts, Vice Chairman

Title III Staff:

Mr. Harris Taylor, Director of Federal Programs
Miss Lorraine M. Wright, Education Planning Associate

Directors of Special Education Title III Projects:

Dr. Stanley E. Jackson
Mr. David R. Updegraff

Dr. Enid Wolf

An Evaluation of ESEA Title III Project
Fiscal Year 1970

Prepared by the Department of
Research and Evaluation

Projects

Development Linguistic and Conceptual Ability in Aphasic Children

Rubella Children: A Complete School Program

Seriously Emotionally Handicapped--A Program Based on Principles of Behavior Modification

Severely Mentally Retarded: Adaptive Behavior

Comprehensive Education for Multiply-Handicapped Deaf Children

Division of Planning, Research and Evaluation
Department of Research and Evaluation Staff of Title III Evaluation-Special Education

Dr. Mildred P. Cooper - Acting Division Head
Mrs. Lavolia W. Vails, Coordinator of Evaluation - Title III
Miss Sadie D. Gaskins, Clerk

Directors of Special Education Title III Projects:

Mr. Stanley E. Jackson, Director
Department of Special Education

Dr. Thomas Behrens, Director
Kendall School for the Deaf

Dr. Enid Wolf, Supervising Director
Developmental Center, Special Education

Special Consultants:

Dr. Shlomo Cohen, Director
Behavior Modification Project
Anne Arundel Training Center

Mrs. Kathryn O'Connor, Educational Consultant
Alexander Graham Bell Association for the Deaf, Inc.

Dr. Edna K. Monsees, Associate Director
Children's Hearing and Speech Center

Dr. Stephanie B. Stolz, Assistant Professor of Behavior Analysis
Department of Psychiatry
The John Hopkins School of Medicine and
Chief, Small Grants Section
National Institute of Mental Health

TABLE OF CONTENTS

	Page No.
Introduction	i
PART I	
Development Linguistic and Conceptual Ability in Aphasic Children	
1. Summary	1-1
2. Abstract	1-3
3. Final Evaluation Report	1-4
Appendix	1-13
PART II	
Rubella Children: A Complete Program	
1. Summary	2-1
2. Abstract	2-4
3. Final Evaluation Report	2-5
Appendix	2-19
PART III	
Seriously Emotionally Handicapped: A Program Based on Principles on Behavior Modification	
1. Summary	3-1
2. Abstract	3-4
3. Final Evaluation Report	3-6
Appendix	*

* Because of length and detail of information, the appendix is on file in the Division of Planning, Innovation and Research, Department of Research and Evaluation.

TABLE OF CONTENTS
(continued)

Page No.

PART IV

Severely Mentally Retarded: Training Adaptive Behaviors

1. Summary 4-1

2. Abstract 4-4

3. Final Evaluation Report 4-5

Appendix 4-33

PART V

Comprehensive Education for Multiply-Handicapped Deaf Children

1. Summary 5-1

2. Abstract 5-4

3. Final Evaluation Report 5-5

Appendix .....*

(Language Curriculum Guidelines and Sample Classroom Materials.)

*Because of length and detail of information, Guidelines and Samples are not included. Copies may be requested from the Kendall School for the Deaf.

CONCLUSION 6-1

INTRODUCTION

Many children in the district who have handicapping conditions and problems are growing up without basic skills necessary for future success as citizens. Experience has shown that such children when properly challenged and given the means for growth and learning in an appropriate setting, can make unprecedented academic, social, psychological and physical progress.

Five experimental programs* were designed to serve children with handicapping conditions. The programs provided individualized instruction for aphasic, rubella, severely mentally retarded, seriously emotionally handicapped, and multiply-handicapped children. While all of these children have distinctive problems, most of them are multiply-handicapped: a few have severe organic problems, such as the deaf-blind; almost all are affected emotionally by their handicaps; all have learning problems.

Four of these projects were developed and implemented by the Developmental Center for Special Education, a branch of the Department of Special Education of the Public Schools in the District and one project was developed and implemented by the Kendall School for the Deaf on the campus of Gallaudet College.

The five experimental projects, implemented during the 1968-1969 school year, have served one hundred and sixteen children. Eighty-six of these children have been served through the Developmental Center programs, housed at the Center and at six Elementary Schools; thirty children were served at the Kendall School for the Deaf.

The five projects, though different in design and scope, have a common goal: to improve the educational, cultural, social and physical experiences of the handicapped child according to his ability to succeed. All five are both comprehensive and complex and therefore present a wealth of possibilities for experimental investigation. Systematic, empirical research and a variety of evaluation techniques have been utilized in each project.

Evaluation

By building evaluation techniques into each project the evaluation process was able to serve a dual function in these programs. Not only did evaluation serve as a means of judging the overall effectiveness of the projects, but it also provided continual feedback to project staff so that they could adjust their methods frequently to meet the educational needs of individual children.

The Department of Research and Evaluation of the Division of Planning, Innovation and Research played an important role in the evaluation process.

* The term program(s) and project(s) are used interchangeably in this report.

The Department assisted in planning and implementing the evaluation of each project and contracted consultants with expertise in the training of handicapped children to act as third party evaluators. A Coordinator of Title III Evaluation on the staff of the Division worked with consultants to set up an evaluation program designed to assess the implementation of the projects in terms of their objectives and to provide feedback so that the program might have maximum impact on the handicapped child.

Evaluation techniques used in the projects included not only observation of the children's behavioral changes, but also some or all of the performance measures; tests, analysis of diagnostic tests, anecdotal records, and cumulative records. Evaluation data was also gathered from social workers, psychiatrists, parents, teachers, principals, and project directors by means of conferences, interviews, questionnaires and records.

This Title III ESEA - Evaluation, Special Education Projects: Final Report contains a summary and a consultant's detailed, systematic, and objective evaluation of each of the five projects. In their reports the consultants examine the extent to which the projects meet their stated objectives, comment on the strengths and weaknesses, the successes and failures of the projects, and offer recommendations. Some statistical data that describe selected aspects of the programs are included. However, because of the nature of the problems of the children and nature of the data collected, all data were not amenable to statistical analysis. Therefore, some subjective judgements regarding the progress of the children and the success of the projects have been made.

The Department of Research and Evaluation acknowledges in appreciation, the cooperation provided by the Director of the Developmental Center, Project Directors, Teachers, Aides, other project personnel, and administrators where classes in the projects were held.

Final Evaluation Report

ESEA Title III Special Education Project

Development Linguistic and Conceptual Ability in Aphasic Children

Prepared by: Edna K. Monsees, Ph.D.
Assistant Director
Children's Hearing and Speech Center
Washington, D. C.
and
Mrs. Lavolia W. Vails
Coordinator of ESEA Title III Evaluation
Special Education Projects

Project Summary

Title: Development Linguistic and Conceptual Ability in Aphasic Children

Group Served: "Aphasic" Children

Project Location: Developmental Center for Special Education Seaton Elementary School

Title III Funds Allocated: $8,000

Number of Children Served: 6

Background and Rationale:

"Aphasic", a term generally applied to children with severe language disabilitity, sometimes primarily in the receptive area and/or in the expressive area. The receptive area manifests an inability to comprehend; the expressive involves the inability to use spoken language for communication purposes.

Because of the large number who could not be served because of limited facilities, this project was designed for the purpose of providing an educational program for children in the District who have language disabilities.

Project Objectives:

The specific objectives of the project were as follows:

1. To provide a comprehensive language development program for the non-verbal child.

2. To provide complete diagnosis and evaluation in each case.

3. To establish criteria and methodology for treating the "aphasic" child in a public school milieu.

4. To provide a laboratory-classroom setting for the in-service training of teachers and graduate students concerned with the education of language handicapped children.

Project Methodology:

Two principle methodologies used were techniques expounded by Myklebust, and by McGinnis. These techniques are based on what is conceptualized to be the primary inabilities of the language handicapped child. McGinnis theorizes the major problemsas a difficulty in formulating individual sounds and words, and an inability to remember sounds in sequences.

Myklebust theorizes the problems as one of understanding the meaning of words and their relationships to objects and ideas. Initially both approaches were used but within a few weeks of operation, the former technique was discontinued.

In the evaluation strategy, emphasis was placed on music, art, motor skills, and the development of visual perception.

Evaluation Plan:

Initially Medical and audiological testing was completed on each child. Most of the children were evaluated for expressive and receptive abilities, intellectual development, and visual perception.

In addition to the on-going evaluation built into the project, a consultant, employed on a contract basis worked cooperatively with the staff from the Department of Research and Evaluation, Division of Planning, Innovation and Research in the evaluation of the project. Each objective of the project was considered, children were observed in classroom and in out-door activities, techniques were noted, records, test and other pertinent matters were discussed in conferences with the Director of the Center, teachers and other staff personnel.

Results:

The teacher and aides felt that there had been successes in the implementation of goals of the project and have commented on the development of each child in progress reports. These include such comments as C.'s receptive abilities are improved; L., has shown some improvement, will now make effort, D., has extended his repertoire of discriminations to fine stimuli; six children who might have had to remain at home have been provided with educational experiences within the public school framework; all have made gains, and several made substantial gains in receptive and expressive language and in pre-reading skill area. From gains such as these it is reasonable to believe that significant progress (for them) has been made, and that a good beginning in program development is evidenced.

Consultant's Comments and Recommendations:

The need for an experimental program such as this is great and urgent in the schools in the District. A fine beginning towards achievement of project objectives has been made. Continued support of the program through Federal and local funds was recommended, and included suggestions for less categorization and compartmentalization of programs within the Developmental Center, more flexibility and individualization, and a diagnostic team of specialists be appointed on a consultant basis to review findings with the staff and make recommendations of each case.

Abstract

Final Evaluation Report

Title: Development Linguistic and Conceptual Ability in Aphasic Children

Background and Purpose of the Project

This project was initiated in June, 1969, and is now completing its first year of operation. The project was designed to provide the beginning of an educational program for language disabled children within the public schools of the District of Columbia.

The children enrolled in the pilot class were selected from waiting lists of children not enrolled in regular classes because of the nature and severity of their problems, particularly in the area of language. The initial group included six boys and one girl, ranging in age from three through seven years. One boy had to be dropped because of extreme destructive and aggressive behavior. Six children remained throughout the year.

Director: Stanley E. Jackson

Location: Developmental Center for Special Education

Date: June, 1969 - July, 1970

Target Population: Eight non-verbal "aphasic" children whose lack of speech and language ability is the primary disability, not secondary to apparent severe motor involvement, hearing loss, mental deficiency, or emotional disorder.

Staff: 1 Director, 1 Teacher, 2 Teacher-Aides

Cost: $8,000

Final Evaluation Report

Title: Development Linguistic and Conceptual Ability in Aphasic Children

Background and Purpose of the Project

This project was initiated in June, 1969, and the pilot class was begun in September 1969. The project has now completed its first year of operation. The stated purpose of the project, was to provide a demonstration instructional program for aphasic children. "Aphasic", is the term generally applied to children having severe language disability, sometimes primarily in the receptive area as manifested by an inability to comprehend language, sometimes primarily in the expressive area involving inability to use spoken language for purposes of communication and most often involving both receptive and expressive problems.

In the District of Columbia, the Children's Hearing and Speech Center of the Children's Hospital served for a long time as the only full scale institution for treatment of the language handicapped child. Unfortunately, because of the large number of children in this category, many could not be served. The present project was designed to provide the beginning of an educational program for language disabled children within the public schools of the District of Columbia.

The children enrolled in the pilot class were selected from waiting lists of children not enrolled in regular classes because of the nature and severity of their problems, particularly in the area of language. The initial group included six boys and one girl, ranging in age from three through seven years. One boy had to be dropped because of extreme destructive and aggressive behavior. Six children remained throughout the year.

Target Population: As stated in the original proposal: six children "whose lack of speech and language ability is the primary disability, i.e., not secondary to apparent severe motor involvement, hearing loss, mental deficiency, or emotional disorder".

Objectives:

The specific objectives of the project were as follows:

1. To provide a comprehensive language development program for the non-verbal child.

2. To provide complete diagnosis and evaluation in each case.

3. To establish criteria and methodology for treating the "aphasic" child in a public school milieu.

4. To provide a laboratory - classroom setting for the in-service training of teachers and graduate students concerned with the education of language handicapped children.

Evaluation:

Evaluators: The evaluation team was composed of two "outside" evaluators in addition to Dr. Enid Wolf, supervisor, and the teaching staff.

The principal evaluators were:

1. Dr. Edna K. Monsees, Associate Director of the Children's Hearing and Speech Center of Children's Hospital of the District of Columbia. Dr. Monsees, who was employed as a consultant on a contract basis to work cooperatively with the ESEA Title III Special Education staff from the Division of Research and Evaluation, provided expertise in the areas of language disability in children and in special education evaluation.

2. Mrs. Lavolia Vails, Coordinator of Title III Special Education Projects Evaluation.

Procedures

The evaluation has been an on-going process based on objective data provided in reports prepared by the teachers. In addition to information above the language problems and achievements of children, the data included areas such as social skills, personal awareness, attention span, sensory exploration, and use of media, gross and fine motor skills, developing individual interest, visual motor skill, and rhythms and sound reception.

A psycholinguistic Inventory developed by Dr. Enid Wolf was administered. (See Appendix A, which shows a portion of the inventory which was recorded from time to time throughout the year of the Project).

Special tests were administered to all of the pupils, and test results were recorded on a special summary sheet for each child so that diagnostic information could be seen readily. (Appendix B), and the complete tests filed in the pupil's folder after review by the staff.

Teachers and consultants held conferences, agreed upon tests, and administered a number of tests, as described above.

Teachers' periodic reports were prepared indicating each child's problems and needs, as well as his progress during the period of enrollment in the project. (Appendix C)

The project staff held periodic conferences to discuss the children and their needs, and when indicated, changes were made in the procedures used in the conduct of the classroom activities.

Three visits by the evaluation consultants were made to the project to observe the children in the classroom, and several additional visits were made to discuss with the teaching staff classroom techniques, records, tests, and other pertinent matters.

This evaluation is reported in terms of the stated objectives of the project as outlined in the approved proposal.

Findings and Recommendations of the Evaluation Team

Objective 1: To provide a comprehensive language development program for the non-verbal child.

The curriculum described in the grant application provided for an eclectic approach to the remediation of the problems presented by language disorders. The two principal methodologies were to be those represented by the Myklebust and the McGinnis techniques. The latter was discontinued within a few weeks. The former was retained, but this program was implemented and expanded during the year. The curriculum which was designed by Dr. Enid Wolf provided for brief periods of group and individual activities, essentially the same from day to day and divided the day into many short periods from ten to twenty minutes each. The attached final report of year's activities prepared by the teacher, Mrs. S F , lists the areas covered in the program of instruction. (See Appendix D)

Mrs. F 's report also includes a summary of the language gains made by the pupils and the problems encountered.

In the opinion of the evaluators, although the project has made a good start in meeting this first objective, much remains to be done. Specifically, in view of the wide individual differences exhibited by the pupils, a much more individualized approach to remediation of the language deficits is recommended, and a more flexible application of all aspects of the curriculum should be made.

A first step in the direction of individualization of the program to meet the needs of each child would of necessity be a comprehensive language evaluation of each child conducted by a qualified speech and language pathologist. Such a diagnostic evaluation, which should be completed prior to the enrollment of the child or in conjunction with a predetermined period of diagnostic teaching in the classroom, should be followed by a staffing conference of clinical and educational staffs. This conference would establish the baseline of the child's language functioning in the areas of reception, integration, and expression, and prescribe a course of remediation or instruction designed to meet that child's specific needs.

Objective 2: To provide complete diagnosis and evaluation in each case.

Several tests were administered to each child at the school during the school days by various staff members and graduate students from local universities assigned to the project for a part of their professional training. The details of the test findings are included in each child's folder, and the test scores have been recorded on the summary sheet. (Appendix B)

The program suffered, in the opinion of the evaluators, by failure to synthesize and reconcile the test findings as a basis for prescribing

a course of training for each child geared to his individual strengths, needs, and problems. Several of the children were known to be involved in diagnostic evaluation at outside clinics at Children's Hospital, Georgetown University Hospital, and D. C. General, but no liaison was established with these clinics.

Part of this problem was due to the fact that the notice of project approval was received so late in the year and to the necessity for implementing the project by opening up the class as soon as possible. The diagnosis, with particular reference to the possible etiology of the language deficiencies and deviations exhibited, is still not clear in the case of several children. In one or two cases, the staff feels that the child's language problem is a manifestation of emotional disturbance, but this has not been confirmed by a qualified psychiatric or psychological opinion, nor has guidance in handling the emotional aspects of the problem in the classroom or in the home been obtained.

Objective 3: To establish criteria and methodology for treating the "aphasic" child in a public school milieu.

The several aspects of this objective as discussed below:

a. Criteria for selection of pupils. At the time this class was being assembled, there was a backlog of children with severe language problems ranging in age from pre-schoolers to teen-agers whose educational needs were not being met in the District of Columbia. Approximately thirty of these children had been referred to the Developmental Center by a variety of medical, public health, and educational agencies. The group selected for this pilot class were those having the most severe linguistic difficulties. And although it was originally intended to accept those whose language problem was not directly related to and a result of other manifest disorders (See above, "Target Population"), the children selected actually displayed many other concomitant disorders or behavior and intellectual function. Most of the pupils were hyperactive, disinhibited, distractable and stimulus bound. Without expert psychological and language-pathologist evaluation and guidance, and a specifically designed process of diagnostic teaching, it was not possible to ascertain which problems might realistically be designated as primary or secondary - that is, which were cause and which were effect.

   On the basis of this year's experience, it should be possible to develop a more realistic set of criteria for the selection of pupils in terms of specific language functioning and of the related behavioral and cognitive problems to be expected.

b. Curriculum and methodology. Under Objective 1, above, we have discussed the evaluation of the language aspects of the curriculum and methodology used in the project. Within the approach selected, which involves a great deal of repetition by the teacher of a limited number of words and verbal concepts, the beginning states of a sequential curriculum

guide have been formulated. In subsequent years of the project, it is planned that curriculum will be expanded to higher levels of instruction, and provision will be made for individualization to meet the objectively determined needs of each of the children.

c. Feasibility and desirability of this type of program within the public school. Since we accept the premise that the public schools have an obligation to provide an educational program for every child in the community geared to his abilities and needs, we must conclude that an experimental program such as provided in this project is a desirable objective. The fact that six of the initial seven children, whose problems were severe, remained in the program and made gains in language and overall behavior, would seem to vouch for the feasibility factor. (The teacher, Mrs. F , has prepared summary reports on each child's progress. These are on file in the office of the Developmental Center).

Objective 4: To provide a laboratory-classroom setting for the in-service training of teachers and graduate students concerned with the education of language handicapped children.

As indicated in the preliminary report, seniors and graduate students from George Washington University, Howard University, and Catholic University spent some time in the classroom, working from one to three days weekly with specific children individually and in groups. Six students in all, from the departments of speech and hearing, psychology, and special education, participated. The staff has reported that the liaison with the university professors was inadequate. Only one professor charged with supervision of this clinical practicum or student teaching experience visited the project to observe the student's work. To provide a meaningful clinical or student teaching experience should be the joint responsibility of the university and the school. This would require an initial conference with the supervising professor and the classroom teacher and supervisor, a specific course of experience with specific objectives outlined for each student, supervision by both interested agencies, and a final appraisal of the student's performance. To meet its end of the obligation, it might be desirable for the Developmental Center to designate one person to handle the liaison with the universities and the management of the students' schedules and supervision.

Results and Recommendations Regarding Individual Pupils

Mrs. F 's report on individual children and her final summary give the details of each child's problems and progress. The following is a brief recapitulation with recommendations concurred in by both the evaluators and the project staff:

C.C., age 6-0 in September '70, has made substantial gains in meaningful use of speech for communication, but his expressive language is frequently unintelligible or frank jargon. Recommend that he continue in the special class, but that he be seen for complete speech and language

evaluation at a clinic such as the Hearing and Speech Department of Children's Hospital (or other medically based center employing ASHA certificated language pathologists). Upon completion of the evaluation it is recommended that the clinc and project staffs meet for a staffing conference to clarify the diagnosis and to plan remedial procedures.

D.E., Age 7-9 in September '70. D.'s problem has been clarified as one of speech articulation and voice difficulties, rather than of language per se. The tests administered reveal perceptual and cognitive functioning at less than half of chronological age expectations. Some evidence of emotional problems.

It is reported that D. is at present being re-evaluated in regard to the speech and voice problems at a local clinic.

This class seems to be no longer an appropriate educational placement for D. It is recommended, however, that he be re-enrolled in the class in the Fall while the diagnostic evaluation is being completed and conferenced, and while another more suitable program can be located.

L.J., Age 6-11 in September '70. Has made substantial but inconsistent gains in language and behavior. A major problem is his bizarre behavior and evidence of emotional disturbance. In the tests administed, with the exception of one test of visual motor performance, he scored considerably below one half of chronological age expectations.

L. is reported as being under treatment in the neurology department of D. C. General Hospital, but results of their evaluation and treatment plans are not known, since there has been no direct contact between the hospital and the project staff.

It is recommended that L. be re-enrolled in the program next Fall, possibly on a temporary basis depending upon the results of comprehensive diagnostic evalaution and perhaps upon locating a more suitable placement or psychiatric help.

J. M., age 5-5 in September. J is the most verbal, least handicapped, child in the class. She has made satisfying gains in behavior and in language. She was successfully integrated on a part-time basis into the kindergarten class with ordinary children this year. It is recommended that she be enrolled in regular kindergarten next Fall with some supportive help from the program.

B.T., age 4-10 in September. B.'s behavior is at present his most serious problem, and he appears to be emotionally disturbed. He is reported as having been seen in the neurology department at Children's Hospital, but no report of this evaluation has been received and there has been no contact between clinic and the school staff.

Unquestionably, a high calibre of psychiatric or psychological supervision will be required for B. to achieve educationally. It is recommended

that the staff explore the possibility of more suitable educational placement for B. in a setting for young emotionally disturbed children such as the Hillcrest Children's Center, or in a class for such children within the public school system.

E.T., age 7-9 in September. E. is a hyperactive child with much inappropriate behavior and language. Much of his speech is echolalic. He scored below one half of chronological age expectations on all the tests administered.

Recommendations for appropriate educational programming for this child cannot be made until a complete diagnostic evaluation can be done by a team of specialists including speech and language pathologist, psychologist, and possibly psychiatrist.

SUMMARY OF EVALUATION FINDINGS AND RECOMMENDATIONS

Major Strengths of the Program

1. Six children who might otherwise have had to remain at home have been provided with a satisfactory educational experience within the public school framework.

2. All of the children made gains in one or more of the curriculum areas provided.

3. Several of the children made substantial gains in receptive and expressive language and in the pre-reading skill areas.

4. A start has been made in the development of a curriculum in several skill or subject areas.

Problems and Recommendations

1. Although the individual differences within each group were wide, essentially the same curriculum and routines were used with all of the children.

The curriculum and methodology used in this class requires a great deal more flexibility and individualization. This implies a type of programming for each child, so that when he has mastered a particular skill or concept he need not go on practicing it while waiting for the other children in the group to catch up.

This need can perhaps be better met in the program next year, which contemplates having twelve children with two teachers and two aides, and which will thus provide more opportunity for grouping according to abilities and needs and as well as individual tutoring and therapy.

2. The lack of diagnostic team and the consequent lack of clearly defined diagnosis of the behavioral, emotional, intellectual, language, and educational aspects of the child's overall problem.

To remediate this situation, we recommend that a diagnostic team of specialists holding the highest level of professional certification in their respective areas be appointed on a consultant basis, to review available diagnostic information, to examine children for supplementary evaluation in specific areas as needed, and to meet on a scheduled basis with the teaching and supervisory staff to review their findings and to make recommendations and management for each use.

The nucleus of the diagnostic team would include, in addition to the classroom teachers and supervisor, a speech and language pathologist, psychologist, social worker, and educator specialist in the area of special learning disabilities.

3. Lack of liaison with clinics and other agencies in the community known to be engaged in evaluation or treatment of some of the pupils in the program.

We recommend that a member of the teaching and supervisory staff establish liaison with the clinics and centers who are in contact with the pupils in the program and to arrange for staff participation in their case conferences or other means of sharing information and insights about the problems of these children.

4. There seems to be a problem of categorization and perhaps too rigid compartmentalization of various programs within the Developmental Center.

The prevalence of obvious emotional and behavioral deviations, and possibly retarded intellectual functioning as well, in this class of "aphasic" children suggests that greater cooperation among the several programs and consequent greater flexibility in assigning children to classes within the program might be desirable.

It is recommended that the feasibility of more interaction among the programs within the Developmental Center be explored.

If a diagnostic team such as that suggested in (1) above were appointed it might serve the entire Center programs and thus help to achieve the desired interaction and flexibility within its several programs.

5. The implementation of these recommendations cannot be accomplished within the budget requested for the 1970-71 school year. Accordingly, it is recommended that the budget be appropriately revised or a supplementary source of funding be explored.

CONCLUSION

There is a great and urgent need for experimental programs such as this one within the public schools of the District of Columbia. This project has made a fine beginning toward the achievement of its objectives, and continued support of the program through both Federal and local funding is recommended.

Respectfully submitted by:

Edna K. Monsees, Ph.D.
Associate Director,
Children's Hearing and Speech Center
Washington, D. C.
and
Mrs. Lavolia W. Vails
Coordinator of Title III Evaluation-
Special Education Projects

APPENDIX A

PSYCHOLINGUISTIC INVENTORY

A STUDY OF THE CAPABILITIES AND DISABILITIES

OF THE NON-VERBAL CHILD

To be used analytically with non-language children to measure, describe and record longitudinally emerging receptive and expressive communicative abilities.

Child's name: T, E
Birthdate: 12-2-62
Institution: Departmental Center/Special Education
Date of admission: September 1, 1969
Date of testing and examiner:
(to be noted on each section
as administered)

This instrument has been designed for the purpose of collecting relevant data in an organized way over a period of time to gain an overall impression of children who have severe speech and language impairment, possibly in connection with severe ego disturbances Importance of noting the requested information is based on the assumption that the inability to perform or learn a task may be impaired for any number of reasons, or interrelationship of factors. In any event, we can objectively describe performance and how it may change, and use this to qualify other impressions gained regarding behavior.

It is the purpose of this tool to give us (1) an initial impression (2) a longitudinal study of abilities, and (3) rate and description of growth in a particular area of function. It is implied that lack of or even poor function is equally important to note as a definite ability if these purposes are to be accomplished.

This is to be a practical, ongoing record of development beginning with the most basic abilities, continuing on to use of beginning expressive and receptive language. This is the point at which the usual instruments may begin. This is an actualization of the realization that it is vital to be able to assess and record functioning in a population of combined severely language disturbed and ego impaired children in the service of better understanding their patterns of growth, differentiating possible grouping for diagnostic and prognostic purposes, and realizing the goal of improving therapy.

Appendix A - continued
Example of a part of the Psycholinguistic Inventory
recorded for each pupil in the class

PSYCHOLINGUISTIC INVENTORY

RECEPTIVE ABILITIES

		First time noticed (Parent interview) Aug. '69	Present ability April '70 (Therapist assessment)
8.	Does he try to make noises with noisy toys?	Never Voluntarily	Sometimes is very noisy increases intensity with gr-agitation
9.	Does he seem to listen to and recognize familiar words? List.	Many words in the 1 yr. he has talked (echolalic)	Yes & no. Sometimes "without listening"
10.	Does he seem to understand the word "no"? What does he do when he hears it?	May tease, or continue activity, since began responding at all	Continues activity, esp. if hyperactive
11.	Will he wave "bye-bye on verbal request alone?	Needs gesture reinforcement	Now says "Bye--" without gesture
12.	What response does he make to his own name? Names of those in this immediate family?	Uses it rather than "I" or "me"	Delights in using own name frequently (is learning I, me, etc.)
13.	Will he give you something he is holding if you ask for it? With gestures and without gestures? What do you say?	Needs to be told several times and often gestures	Still needs repetition
14.	Will he follow simple verbal commands? Give examples.	To put aways toys but needs repetition	Now follows more commands

		First time noticed (Parent interview) Aug. '69	Present ability April '70 (Therapist assessment)
15.	Does he understand commands better when gestures are used?	Sometimes he needs gesture	Still needs gesture but not as much repetition usually more helpful
16.	What common objects can he point to if you name them? How would you do this?	Needs gesture and repetition usually echoes command	Becomes agitated, but can block, ball various instrum. and manipulative materials
17.	Can he point correctly to to parts of the body upon verbal request?	Sometimes	Yes

APPENDIX B
Sample Summary Sheet for Reading
Diagnostic Test Results

NAME: J C

BIRTHDATE: 10-24-63
ND = No date given NG = No score given
M ☑ F ☐ NR = No response

SCHOOL Seaton

CLASS Aphasic

TEACHER Engelstrom

TESTS		SUBTESTS								Total		TOTAL
Basic Concept Inv.	Tester: Elsey Date: 2-26-70 Age: 6-4	84										
Raven PMs Only echolalic responses	Tester: Elsey Date: ND Age:	NR										
Beery V/Motor	Tester: Elsey Date: 2-26-70 Age: 6-4	5-3										
Hiskey	Tester: Greenberg Date: 3-4-70 Age: 5-5	3-0										
Evanston E.L.E.	Tester: Shapiro Date: 3-1-70 Age: 5-5	NS										
ITPA	Tester: Anderson Date: 4-6-70 Age: 6-6	PLA 21 Q										

COMMENTS:

APPENDIX C

Period Covered _____

TEACHER'S PERIODIC REPORT

Child's Name: _____ Birthdate: _____

School: _____ Teacher: _____ Class: _____

Auditory Function	September	April	June
a. awareness			
b. discrimination			
c. auditory memory			
d. voice inflection			
e. auditory perception (other than training sessions)			
f. vocal decoding (response to commands)			
g. vocal decoding (yes, no responses to questions)			
h. receptive abilities			

Expresive Language

	September	April	June
a. Communication Profile			
b. Phonemes			
c. Motokinesthetic Sounds and words			
d. Vocabulary nouns verbs other words & word combinations related to type of stimulus			
e. Descriptive abilities			
f. General features rate intensity pitch rhythmic patterns			
g. Language total verbal output mean length of sentence other relevant features			

Other Areas	September	April	June
Reaction to denial because of inability to verbalize			
Visual Motor encoding and decoding Gestures and pantomine Conception of use of objects			
Visual perceptual-motor performance Matching Sorting Sequencing Pairing Categorizing			
Comprehension of Body Image			

APPENDIX D

PROGRESS REPORT: APHASIC CLASS OF THE DEVELOPMENTAL CENTER FOR SPECIAL EDUCATION, 1969-70

TEACHER: S F

The pilot class of Aphasic Children/Developmental Center for Special Education was established in the month of September, 1969. It was begun because of a backlog of youngsters with severe language disabilities ranging in age from preschoolers to teenagers whose educational needs were not being met in the District of Columbia. Approximately thirty of these children had been referred to the Developmental Center by a variety of medical, public health, and educational personnel.

The initial group selected for this pilot class included children with the most severe linguistic difficulties and numbered seven, six boys and one girl ranging in age from three through seven years of age. The class was situated at the beginning of the year in the rectory of St. James' Episcopal Church, but was moved after midyear to the William E. Seaton Elementary School, located only a short distance from the Developmental Center.

The proposal submitted for funding of the Aphasic Class had outlined an educational approach for these youngsters combining the methods developed by Dr. Helmer Myklebust and by Mildred McGinnis at the Central Institute for the Deaf. When the children were brought together for the first two or three weeks of the school year it was discovered that the hyperactivity of several and the withdrawn behavior of others in the group created an atmosphere in which few of the potential beginning activities could be coordinated within the group.

A complete program was then devised by Dr. Wolf, dividing the day into many short activities and placing each child in a variety of group and individual lessons. In order to initiate this program and keep it operating, it was necessary to temporarily add a second aide to the staff.

The various sections of the curriculum follow:

Social Skills and Language Recognition
Personal Awareness and Language Reception
Attention Getting and Command Following
Auditory Training - Gross Sounds
Working with Media - Sensory Exploration
Skill Development - Large Motor Activity
Phoneme Learning
Quiet Time - Listening, Developing Individual Interests
Training in Visual Motor Perception
Training in Rhythm and Sound Reception
Word Reception

The above activities, and specific content materials intrinsic to each were of necessity memorized by the teacher and the aides. In addition to the above parts of the curriculum, there were time periods allotted for snack time, lunch time and a rest period. These fourteen periods into which one four-hour day was divided varied in length from ten to twenty minutes each, with a somewhat longer time for the lunch time. Time was allotted for shifts of teaching personnel and for moving children from one group to another as their needs dictated.

Within the areas of the curriculum dealing with language and sound reception on various levels it can be said that progress has been noted with each child. B.T. might be the example of the least change in this area. He was reported by his mother to follow some of the commands used prior to his attendance in the class. He reached a level of knowing and indicating three or four body parts (eyes, hands, ears, and head) and for the remainder of the year did not improve appreciably. B.T. also was and is able to indicate two or three instruments in auditory training for gross sound recognition, and has shown good development in large motor ability, the latter since we have had access to school playground equipment. In working with media, phoneme-learning, listening and developing of individual interests, and training in visual motor perception, B.T. can be said to achieve nothing unless he is taken through an activity step by step, his hands and body manipulated. For these activities as well as for those in which he achieved some gains the greatest deterrent to improvement is B.T.'s unwillingness and, sometimes, overt fear of group situations. His most acceptable way of avoidance is to go to the chief adult in the setting, arms outstretched, making a loud, pleasant cry. At many other times he will just bounce quietly away from the group. If he inadvertently is in close proximity to one particular child, Brian yells loudly, sometimes crying, and tries to escape the area.

At the other end of the spectrum are the three children J., E. and L. who have made the most progress in language during the year. J. in addition to her reading of our personalized reading books, is now beginning to answer simple questions about content appropriately. E is having a more difficult time doing this due to a long-standing compulsion to insert his own name in most language lessons, and a disability in the use of first-person pronouns in place of his name. He has recently shown the beginning of more normal usage. L. though he persists in echolalic responses much of the time (and has shown general hyperactivity during the past two and a half months) can show by actions that he too understands reading content. Each of these three children is able to attack words phonetically, and to recall and produce the words of their vocabulary after they are once learned.

In the middle group of the class are C., D., and T. (the latter is no longer in the class). C. has probably made the most exciting improvement of all the children, considering the severity of his receptive and expressive disorder. He has, during the last month and a half, become interested, first, in the large book of the class stories and then in his own copy.

C. is making much more effort to learn and produce the phonemes which we have been teaching for most of the school year, and is meeting with quite a few successes. He is, at the same time, using some appropriate words and phrases, and using them more consistently than formerly. D., one of the oldest in the class, is apparently not yet ready to read. His lack of achievement in this area may stem from intellectual subnormality and/or emotional problems. These have been covered in greater detail in the monthly report for May, and in the progress report on this child. Both C. and D. display many "normal" behaviors in the classroom and outdoors.

Many more details could be written about the children of the Aphasia Class, their gains and their regressions. And much could be said of the pleasures and trials for those who work with these fascinating if often unpredictable youngsters. We hope that next year some of the hurdles and pitfalls which have been encountered this year will be avoided as the result of all that has been learned during this first year. The result should be an acceleration in growth, learning and social development in the year to come.

Final Evaluation Report

ESEA Title III Special Education Project

Rubella Children: A Complete Program

Prepared by: Mrs. Kathryn O'Connor
Educational Consultant
Alexander Graham Bell
Association for the Deaf, Inc.
and
Mrs. Lavolia W. Vails
Coordinator of ESEA Title III
Evaluation
Special Education Projects

Project Summary

Title: Rubella Children: A Complete Program

Group Served: Multiply-handicapped, hearing-impaired children

Project Location: The Developmental Center; Seaton, and Sumner Elementary Schools.

Title III Funds Allocated: $27,962

Number of Children Served: 6

Background and Rationale:

The Rubella Epidemic of 1963-65 caused many children to be born with handicapping conditions. Many of these children are multiply-handicapped, and face serious educational and social (experiences) challenges.

Encouraged by the concept that handicapped children profit by attending school during the pre-school period, the Developmental Center for Special Education proposed a program primarily concerned with children having sensory handicaps, which cause a delay in language acquisition.

Project Objectives:

This project had two major sections of objectives. In terms of identification, the purpose of this project was to:

1. Identify children with handicapping conditions related to hearing and vision for whom special classes must be provided;

2. Obtain an estimate of the number of classes needed;

3. Obtain specific information about the learning abilities and/or disabilities of individual children.

In terms of service, the project formed classes for these children which attempted to:

1. Prevent hearing or visual loss from having an adverse impact on the child's total personality, thus preparing the child for his role in life in general and school in particular;

2. Provide the earliest, most skilled instructional program possible providing the handicapped child with opportunities at least equal to the non-handicapped child;

3. Prevent an unnecessary lag in language development through early training and education thus giving the child opportunities for optimal language achievement;

4. Provide continual educational diagnostic services;

5. Establish pre-school and kindergarten classes for handicapped children as an integral part of the District of Columbia Public Schools in cooperation with other District agencies;

6. Plan for as early involvement as possible with regular school programs to prepare children for eventual placement in regular classes with special training to be provided when necessary.

Project Methodology:

Eighteen multiply-handicapped children from four to nine years old participated in the Rubella Project. Each child had such a great hearing impairment that he needed special training and the assistance of electronic equipment to help him acquire and develop communication skills. The children were grouped into the following three classes according to the handicapping conditions which had already affected their intellectual development: 5 deaf-blind children; 6 deaf-retarded children; and 7 deaf children.

Evaluation Plan:

The built-in continuing evaluation began with a battery of tests administered at the start of the program to obtain specific information about the learning abilities and/or disabilities of the individual children. An educational consultant contracted by the Research and Evaluation Unit of the Division of Planning, Innovation and Research of the D. C. Public Schools assisted in evaluation process. Following her observations of the classes, there were frequent staff meetings at which the children's performance was discussed and various educational strategies were analyzed and evaluated. At a workshop conducted by another outside consultant, staff members and evaluators were introduced to new materials and methods and were shown video-tapes of similar programs. The continual evaluation and assessment was an effort to keep the program effective and of educational value to the children.

Results:

1. A special pre-school and kindergarten program was constructed to include auditory training, lip reading, speech and language development and other educational and social training. Special emphasis was placed on social growth, - developing independence in caring for bodily functions and accepting the teacher as a source of educational stimuli.

2. Efforts were made to involve parents in the program and to counsel them. Contrary to the original project proposal, parents were unable to assist regularly in the classroom as some were working and others were caring for younger children. Therefore, a classroom aide was hired to assist on a daily basis. Teachers did confer and counsel parents either at the school or by phone. At afternoon parent meetings, parents were given help in learning to deal with their hearing handicapped children. The teachers believed that they kept the parents in touch with the school.

3. The Development Center for the Special Education offered its library as a resource center for the project teachers. Professional journals, audio-visual aids, educational toys and children's books were available. The Center's office staff provided clerical services for the teachers.

4. As a result of frequent contact with the agencies that assist in identifying multiply-handicapped children, two children joined the class in May bringing the number from 16 to 18.

5. All the children functioned at either a pre-school or kindergarten level, regardless of their age. Next year some will advance to the primary grades, some will remain in kindergarten, some will advance from pre-school to kindergarten, and some will remain in pre-school.

Consultant's Comments and Recommendations:

The consultant noted that the Rubella Project served the youngest group of handicapped children in the District of Columbia and that only three or four public schools in the school systems the size of the District conduct programs for pre-school deaf-blind and pre-school deaf-retarded children.

The consultant recommended that the auditory training equipment used in the program be carefully evaluated and that maintenance policy for the equipment be developed. It was suggested also that some light, colorful, plastic, big-muscle equipment would be useful, that children from the project going into regular classrooms needed special care to insure against regression, and that the special education teacher should be able to observe the child in the regular classroom situation.

Abstract
Final Evaluation Report

Title: Rubella Children: A Complete Program

Background and Purpose:

According to figures given by the Department of Public Health, out of 26,851 live births in the District of Columbia, some 200 to 500 children can be expected to have anomalies as results of the Rubella Epidemic of 1963-65. Fifty-four will have some degree of abnormal mental development. Twenty will have visual problems, 20 will have cardiac problems, and 50 will have some hearing problems.

Examination of these figures reveal also that many of the children will be multiply-handicapped, and face serious educational retardation unless social and educational experiences, that emphasize communication are provided for them at an early age.

Upon the concept that handicapped children benefit by attending school during the pre-school period, this proposal is primarily concerned with a group of children having sensory handicaps, which cause delay in language acquisition.

Accordingly, the purpose is the following: Identification and evaluation of children exhibiting Rubella Syndrome, estimation of services required, provision of complete program involving parents and staff, dissemination of findings, and inclusion of program as part of Special Education Structure.

Director: Dr. Stanley E. Jackson

Location: Developmental Center for Special Education; Seaton, and Sumner Elementary Schools

Date: March 1, 1969 - June 30, 1970

Target Population: Six pre-school children will begin the program. By September, the program will expand to include two kindergarten groups of six each. A total of 18 children with multiple-handicaps from Rubella will be served by this project.

Staff: 1 Director, 1 Assistant Director, 1 Research and Planning Associate, 1 Coordinator of Hearing Program, 1 Pre-kindergarten Teacher, 2 Kindergarten Teachers and 3 Teacher Aides

Cost: $27,862

Rubella Children: A Complete School Program

Final Evaluation Report
by
Kathryn O'Connor

Background and Philosophy:

Much has been written about the rapid physical, mental, psychological and social growth that takes place in the early years of a child's life. His need for a healthy climate to grow in is an accepted fact.

That the normal child accomplishes this despite the many odds he encounters is a never ending marvel.

For the hearing handicapped child the physical handicap of the hearing loss makes normal growth a hazardous affair. The hearing loss will metastasize at an alarming rate and create an irreversable growth pattern which will affect the mental, psychological and social aspects of his makeup unless intervention is provided early in life.

With the rubella epidemic of 1964-65 many infants were born having compound physical handicaps which created such a perilous life risk for these children and placed on educators a great demand for special educational programs.

With this in mind the Developmental Center for Special Education of the District of Columbia School District conceived and proposed a Title III project --- The Rubella Children: A Complete School Program

37

Objectives:

This project had two major sections of objectives.

A. In terms of identification, it will be the purpose of this project to:

1. Identify children with handicapping conditions related to hearing and vision for whom special classes must be provided;

2. Obtain an estimate of the number of classes that will be needed;

3. Obtain specific information about the learning abilities and/or disabilities of individual children.

B. In terms of service, the project will form classes for these children which will serve to:

1. Prevent hearing or visual loss from having an adverse impact on the child's total personality, thus preparing the child for his role in life in general and school in particular;

2. Provide the earliest, most skilled instructional program possible providing the handicapped child with opportunities as [at] least equal to the non-handicapped child;

3. Prevent an unnecessary lag in language development through early training and education thus giving the child opportunities for optimal language achievement;

4. Continuance of educational diagnostic services;

5. Establish pre-school and kindergarten classes for handicapped children as an integral part of the District of Columbia Public Schools in cooperation with other District agencies;

6. Plan for as early involvement as possible with regular school programs to prepare children for eventual placement in regular classes with special training to be provided when necessary.

At the time of this report the Rubella Project was composed of 18 children. These children were multiply handicapped, hearing impaired children from four years old to nine years old, all having a hearing loss of sufficient magnitude to prevent them from acquiring communication skills without having special training and without the assistance of special electronic equipment. All the children needed a preschool and kindergarten educational program. They were grouped into three classes according to the handicapping conditions which had already affected their intellectual level.

1. Class of 5 deaf-blind children. Teacher: Mrs. C____
   McGruder School, Developmental Center for Special Education.

2. Class of 6 deaf-retarded children. Teacher: Mrs. D____ G_____
   Seaton School.

3. Class of 7 deaf children. Teacher: Mrs. A___ D_____
   Sumner School.

The class of deaf-blind children presented an especially difficult educational problem because of the deficit of two senses. At the present time there are very few public school classes of deaf-blind pre-school or kindergarten children in the United States which could serve as guide by which to pattern this class. This was truly an experimental and innovative program presenting a tremendous challenge to the entire staff.

The second was made up of children described as deaf-retarded. This class which started with four children had gained two more children by May, making a class enrollment of six. Each child presented a special teaching problem for various physiological and psychological reasons distinctive to that child.

In this class as in the class of deaf-blind children, the teacher's time must be spent on a one-to-one basis with the child if the learning process is to be started and to continue. There is little or no material for the teacher to draw on from other like classes in the United States since teaching the deaf-retarded child is a service that almost no public schools assume even for the school age child. Consequently, like the deaf-blind class this class is innovative and experimental.

Mrs. D____'s class was made up of six deaf children having the greatest language potential. Some of the children in this class had had short periods of training in other agencies in the D. C. District. In this group there seemed to be a more apparent readiness for language learning than in the other groups.

One boy, W. P., was added to Mrs. D____'s class late in the semester. This change in class makeup complicated the burden placed on the teacher. With this addition the character of the entire class changed. While it did provide an occasion to observe W. P. and probably afforded a better opportunity to decide on the best class placement for him in the fall it also disrupted the class routine to which the children had become accustomed and which was designed to develop greater stability and improve coping behavior in each individual child.

It is an accepted fact that all of these changes are part and parcel of a public school setting but it must be kept in mind that both the teacher and the pupils who are already in the class must be protected against the detrimental effects of these interruptions as much as possible.

One way to insure against this is to be sure that the duties of the aide are always such that she is free to assist in the class. Having a list of paraprofessional volunteers that can be called upon at such times gives the teacher the additional assistance she needs. If these volunteers are included throughout the school year even though not always so greatly needed, the habit and practice of helping on a regular basis will have been established. Working regularly with the children helps the children to accept the volunteer and gives her knowledge of each child's distinctive characteristics.

It may seem that the class enrollment of 4 or 5 was small but in the national trend in programs for children with the rubella syndrome it has been found that the rate of learning is greater where the class size is kept down to lower numbers (four seeming to be the ideal size). This has been my observation in visiting throughout the United States. The other way of keeping the teacher-child ratio at an efficient ratio is to have a larger enrollment, (ten or twelve) with two trained teachers and not less than two well trained full time aides, many times there were three aides.

In this situation the teachers are free to work with one or two children individually at any time during the day. The remaining children are divided into small constantly shifting groups which the well trained aides work with. This can be crafts, games, rhythms, perceptual-motor activities, toileting, snack activities, lunch procedure, attendance, story telling, and hearing aid check, and building and playground excursions. In this setup the head teacher does have the responsibility of seeing that the language of each activity is worked out and that the aides use the language that is part of this life-situation.

There are advantages to this large group enrollment in budget benefits and in the social stimulation that the larger group of children can offer each other. Some games that young children play lend themselves better to larger groups. When this happens the groups join and the aides work together. This makes for a very flexible atmosphere so that the individual needs of each child can more realistically be met.

With the cost involved in furnishing each classroom the advantage probably lies in favor of the larger group. Although it is still necessary that each child have individual amplifying equipment which is a fixed cost per child, the play equipment used does not have to be two sets household type toys and large muscle equipment but can be a layer variety and probably less expensive. This class arrangement also calls for portable room dividers for rearranging therapy space.

In the body of the Rubella Project proposal the objectives were divided into two sections: A. Identification and Evaluation of Children Objectives with subordinate points 1, 2, and 3, and B. Formation of Classes, with subordinate points 1 through 6. For the purpose of conciseness and clarity I will refer to these objectives by the outline letters and number.

Objectives A.1 and 2 were fulfilled prior to my coming in as evaluator of the Rubella Project.

Most of these children were absorbed into the existing special educational programs in the District of Columbia except for 16 children for whom there was no program. The individual exceptionalities were such that there was no educational program into which they could be fitted.

The Rubella Children, Complete School Program was organized for these 16 children. These children were grouped into the three classes described herein on page 2.

These heterogenously handicapped children had one common problem, a hearing impairment. After some deliberation it seemed best to place the children into groups which took into consideration the second major handicapping condition which would affect the methodology used and the paging of the educational program.

Objective A.3 was also completed prior to my coming into the project as an evaluator, but information about the learning abilities and/or disabilities of the individual children is a needed on going process if the Complete School Program is to meet the needs of the children as they change and have the flexibility required for reliable regrouping.

All of the children were given some part of the following battery of tests:

1. Medical examination
2. Audiological Examination
3. Speech evaluation
4. Vision Test
5. Hiskey-Nebraska
6. Frostig
7. Leiter
8. Benet
9. Evanston
10. Berry Motor
11. Raven Progressive Matrices
12. Metropolitan Reading Readiness
13. Peabody Picture Vocabulary
14. WPPSI
15. Knox
16. Bender
17. Teacher Reports
    a. Monthly Individual Pupil Reports
    b. Monthly Class Progress Report
    c. Yearly Class Progress Report
    d. Reports on Parent Counseling
    e. Anecdotal Reports
        (1.) from parents
             from aides
             from other personel who had contact with the children such as the bus driver.

All but one child has had the medical examination required for admission. According to the Director of the Developmental Center, this child came into the deaf-blind program through an emergency referral from the Lighthouse for the Blind. Attempts are being made to get the child's parents to take him to the Health Services to complete the required examination. It is expected that this will have been completed by the time the child returns to school in September.

This boy, J. N., and two other children, C. G. and T. M., have not been able to take the entire battery of tests due to the magnitude of the handicapping conditions which affect their functioning in a testing situation.

On examining the children's folders it became apparent that all the children did not have psychological tests of a recent date, so Dr. Robert Dowling, of Children's Hospital, gave each child a test in June before school was dismissed. (Appendix 1.) The written report of these tests will become part of each child's permanent record file at the Developmental Center.

Objective B. 1, 2, and 3, can best be commented on together since they are overlapping in their fulfillment.

These three classes for children, as young as four years old, all with a hearing deficit of such magnitude that they required specially trained teachers and special electronic equipment, and with other handicaps referred to as the Rubella Syndrome, were set up under the project name Rubella Children: Complete School Program, in an effort to provide training in language development, training of residual hearing, lip reading and speech training and thus provide the educational stimulation needed to close the gap between the child's communication skills at the start of the Complete School Program and his competency in communicating by the time he reached regular school age. Every effort was made to provide the children with these special educational requirements.

The children were given many experiences denied to them in their families and in their neighborhood environments. In most cases parents and neighbors don't know how to communicate with these children. Another contingency which interferes in the home situation is the time required to make communication meaningful to the hearing handicapped child. Here the parents run into the problem of the contending pressure of time in fulfilling the routine family services so the child is the one that is neglected. This isolates the child more and more and adds to his communication problems by the negative effect it has on his psychological growth.

To alleviate this, one of the most important parts of the Complete School Program was to provide the child with experiences he had missed -- containing built-in opportunities for social, physical and psychological success similar to those experienced by the normal 4,5,6 year old.

Subsequently, the teacher contrived in every way possible to create for each child a sense of his own worth, to maintain a class climate that would foster the development of his self-confidence and thus add to the positive aspects of his personality development.

The teacher took the children on field trips and short trips out of the classroom into the school building and out into the playground because these children have not had experiences that the normal child accepts as part of every day life. The teacher used these trips to make language learning fun and exciting and because she knew that concept development and language learning can only take place when it is taught in the context of the actual experience. These trips were designed to provide for the cognitive growth and language development required for kindergarten and primary levels.

The teacher's monthly class report listed the field trips, such as: Oxen Hills Children's Farm, a trip to the library to look at and handle the books, and on another occasion, to look at the gerbils. The report also listed the vocabulary and connected language that the teacher worked on which arose out of such trips. (Appendix II)

These trips were happy, successful ventures out of the sheltered world of the classroom, into the world of the school. Here the basic groundwork was laid to overcome some of the negative aspects of personality already seen in the children as a result of their early experiences.

These children are no different than normal children in their differing rates of learning. Consequently, it must not be forgotten that it may take much more time for some children to show progress than for others because of the multiple, interconnecting, but oft concealed, influences that affect the development of the communication skills, such as: better use of residual hearing, better use of residual vision, good family support, constantly working and constantly worn hearing aids, a good family attitude in regard to the hearing aid, regular attendance at school and being in school for the entire school day.

Objective B. 4. The Complete School Program incorporated into the project a plan for continuing diagnostic services. Because the rates of learning of all children varies, it was necessary to have information about the learning abilities and/or disabilities of the individual children. The entire staff: teacher, aides, director, educational specialist, test administrators, parents and any and all who came in contact with the children were used to evaluate the change and growth that took place in them. As they changed, their learning abilities expanded and the teaching strategies used were constantly in flux.

Individual monthly reports on each child were kept by each teacher as well as a monthly Class Progress Report. (Appendix III) This was a very demanding but necessary part of the Complete School Program.

As mentioned in Objective A. 3, it was originally planned to have the children tested twice each year. But, because of all of the unforeseen contingencies that new programs are heir to, the testing policy met with many delays. Nevertheless, the children were all tested, at least this year, by every test on the listed battery that the child would respond to.

One of the evidences of individual growth that took place at some point in each child, was the fact that during the testing situations in the past three months all of the children responded positively to some part of the battery. As a point in evidence, the very fact that C. G. would accompany Dr. Dowling and complete some of the items on the test was significant. (Appendix IV)

Next year, the Director of the Developmental Center reports that the first testing program will start in September to be finished in October so that there can be comparative tests done again in May and June.

Objective B. 5.: It is the present plan to continue these preschool and kindergarten classes for handicapped children as an integral part of the District of Columbia Public School program. Presently, and for the year 1970-71 the Project will function as a Title III project. It is anticipated that classes will eventually be incorporated into the regular District plan.

During the Rubella Children: Complete School Program the salaries of the teachers who were in the Rubella Project were met by the District of Columbia School District. I make this point to show that the plan was partially functioning as a District responsibility during this first part of the Rubella Project.

Objective B. 6.: The idea of bringing about early involvement with regular school programs has been carried out with dispatch. W. B., who was in Mrs. D___'s class was sent to a regular kindergarten class for approximately two hours of each school day. Mrs. D____reported that she tried to keep in close contact with the regular classroom teacher as much as possible. This was difficult because of the responsibility of the rest of the class. She also reported that she thought that W. B. seemed to be getting some benefit from the experience.

There are further plans for early school involvement to be put into affect next year in September. In Mrs. G_____'s class it was felt the progress M.S. made during the months of special training was such that his class placement should be changed. M. S.'s audiogram shows that he has little or no hearing loss. (Appendix V) He has made great progress since he was exposed to a consistant, structured language model. In September, he will be enrolled in a regular class of kindergarten children. It is planned that the regular classroom teacher and Mrs. G_____ will have frequent communication and,if it is necessary to provide some special language training for M. S.,a special therapy session will be arranged.

Enrollment

The total enrollment was finally made up of 18 children (two more were added to the original sixteen late in the semester).

Due to the seriousness of the handicapping conditions Mrs. C____'s class has always remained at 5 pupils. Even this number is a large class size considering the overlaying physical handicaps which these children have, not to mention the individual psychological interferences obstructing the learning rate of each child which required one-to-one teaching on the part of the teacher. I commented on this on page 3.

Program

1. A specially constructed pre-school and kindergarten program including: auditory training, lip reading, speech and language development and other educational and social training has been worked out. Due to the social and mental ages (Appendix VI) of the children in the deaf-blind and deaf-retarded classes during this first part of the project the training was heavily weighted toward social growth, developing independence in caring for bodily functions and the acceptance of the teacher as the source of the educational stimuli. The children in Mrs. D____'s class are at a more advanced stage of their development and are handling more of an academic program.

2. Efforts were made to counsel with the parents. But it was found that some changes had to be made in the plans written into the project. It proved difficult to get the parents to come regularly to the school to assist with the school activities. Some parents work, some parents were kept home by other small children. The irregularity of parent attendance interfered with the school program. The regular services of a classroom aide was acquired to assist on a daily basis.

The teachers did do parental counseling, either by inviting the parents to come to school or, this failing, talking to them by phone. Along with the other records kept, all three teachers made a written report of these contacts they made with parents. (Appendix VII)

There was also an afternoon parent meeting -- educational in scope in an effort to help teach the parents how to deal with their hearing handicapped children. A report of this was written up. (Appendix VIII) The new sheets that were introduced earlier and mentioned in the interim report have been used to send home. The teachers feel that they keep the parents in touch with school. A sample is attached. (Appendix IX)

3. The library in the Developmental Center for Special Education was set up as a resource center for the teachers. Professional journals, audiovisual aids, educational toys and books published for children are available to the teachers for the asking. Dittos are made and typing is done by the office staff. Due to the delay in getting the classes functioning

and the implementing of the daily procedures there is still much to be done to make the latest educational facilities and expertise available to the teaching staff. As mentioned in the Interim Report there is still a need for sight-saving educational materials and for some toys that are especially designed for the development of perceptual-motor skills such as the sketch in (Appendix X).

The Peabody Rebus Material has been ordered and in September the classes are planning to begin the Developmental Language Section of the Rebus Reading Material working under Mrs. Kathryn Horton on a field testing basis.

4. Dr. Wolf reported to me that she is in frequent contact with the agencies which assisted in identifying the children. Evidence of this was indicated by the enrollment of the new children into the classes in May.

Pre-school and Kindergarten Emphasis

This year, all these children, regardless of age, have functioned at either pre-school or kindergarten level. Next year, it is thought that three of them will be able to undertake the learning tasks of the primary grade, more truly, junior primary. Some of the other children will need a longer time at the kindergarten level, some will move from the pre-school to the kindergarten and some will remain in the pre-school. The Complete School Program has always been tailored to meet the child's needs.

Evaluation

The evaluation of the Project was coordinated by the Research and Evaluation Unit of the Division of Planning, Innovation and Research.

Due to the delay in granting and funding of the Rubella Children: Complete School Program the time schedule for the evaluation had to be revised. On the new time schedule, the evaluation covered the time from March 1 to June 12, 1970.

The evaluation team met frequently during this time. An outside consultant was invited to visit and observe the program, new material were brought in and demonstrated, video-tapes showing other programs were viewed. There were frequent staff meetings and many observations and consultations concerning the children and the educational strategies that were being used. Every effort was made to keep the Complete School Program effective and of educational value to the children.

Innovative Aspects of Projects

1. I have previously made observation as to the uniqueness of the Complete School Program. This is the youngest group of children with handicaps to be served by the District of Columbia School District.

here are only three or four public school programs in the United States that have classes for the pre-school deaf-blind and the pre-school deaf-retarded, particularly in a city the size of Washington, D.C. Its success will be of value to the entire country. I certainly commend the Director of the Developmental Center for conceiving this plan and for working to perfect its operation.

2. The Innovative Aspect of having parents serve as aides in the classroom was not successful. As stated earlier, either the parents work or have other small children to care for at home. It was difficult to procure regular classroom aides so that the baby sitting proposal could not be fulfilled. To make an area marked off by room dividers in which the small children can play while the mother observes her handicapped child in school might be one solution to this problem.

I have seen instances where some teachers include the young siblings in the therapy circle and in other activities of the classroom. This gives the teacher an opportunity to study the relationship of the siblings to each other and the mother when they are all together, as well as being able to teach the brothers and sisters how to include the handicapped child in their play situations.

3. Transportation was provided for both the children and parents who were serving as aides. When there was no parent riding the bus an aide made the trips to supervise the children and to assist the driver in handling them. This took quite a bit of the aide's time from the classroom.

Dissemination

1., 2., and3. Information will be disseminated in a written record at the termination of the present Project and its continuating Project.

Dissemination by observation and visitation has been encouraged since the beginning. There have been quite an assortment of visitors up to this time. These have included college and university students who are in the field of special education, community people who are interested in educational activities, a movie photographer who was exploring the field of exceptional children for a documentary film, parents who have multiply handicapped children living in other areas who are interested in gaining information about other programs. I am confident that as the information becomes known about the nature of the classes there will be many more visitors.

Recommendations

The children have continued to make definite progress. They are still not completely adjusted to a school program and I am sure that their progress will be even more pronounced next year.

Those children who are going into regular classrooms need to be given extra special care to insure that they do not regress. It would be of great value to the special teacher if it could be arranged for her to watch the child in the regular classroom situation. This would give her

a better understanding of how he is adapting to the multiple stimuli of the larger class population.

As mentioned in the Interim Report there is still a need for equipment: some light, colorful plastic big muscle equipment like the illustration in the appendix. (Appendix X) This kind of equipment encourages imaginative play and group play. The colors are bright which would be valuable for the deaf-blind children and the shapes can be manipulated in wonderful ways for perceptual-motor activities.

The auditory training equipment should be carefully evaluated. The teachers have said that they would use the equipment for greater lengths of time if each child had two ear molds and the equipment was changed to tranducers. Since the value of the whole project is measured by the progress of the children the amplifying equipment should be made as useful to the children as possible. Most of these children have some residual hearing the utilization of which will probably affect their placement in a regular class more than any other single factor. The attached audiogram gives some indication of the hearing level of each child. Any decibel recording of 95 db or under, with auditory training and consistant amplification, can be of great value to the child. (Appendix V)

A good maintenance policy for the auditory training equipment should be developed. Some electronic equipment of this kind is very sensitive. Equipment that is not functioning is the same as no equipment. Next to the teacher probably the most valuable thing in the whole classroom is the auditory training equipment.

The teachers are to be commended for the fine work that they have done with the children to date. But next year each teacher should be assured of a full time aide that she does not have to share with anyone so that her time will be even more effective. The aides should be carefully chosen because of their interest in this kind of work and should have some instruction in how to work with these children. Helping the aides to understand and utilize all of the language opportunities that are part of a school day would result in additional lip reading, auditory training and language experiences.

I would certainly recommend the continuation of the three classes. The work that is being done here is invaluable. There is a great need of the kind of information that will come out of these classes. Very little is known about teaching these multiply handicapped children of this age group. By refunding the program and continuing the classes many other districts will be guided in setting up like programs.

submitted by

Kathryn O'Connor, M. A., M. Ed.
Educational Consultant

Lavalle Wells, M. A.
Coordinator of Evaluation --
Title III, ESEA
Special Education Projects

REFERENCES

1. Cook, Ann and Mack, Herbert. "The British Primary School." Educational Leadership, November, 1969.

2. Beatty, Walcott H. "The Psychology of Becoming Human." Educational Leadership, January, 1963, p. 247-251.

3. Bergman, Moe et. al. "Auditory Rehabilitation for Hearing Impaired Blind Persons." ASHA Monographs, Number 12, March, 1965.

4. Davis, Hallowell and Silverman, S. Richard, ed. Hearing and Deafness, revised edition; New York: Holt, Rinehart and Winston, Inc.

5. Day, David E., Nurss, Joanne. "The Effects of Instruction on Language Development." The Elementary School Journal, January, 1970.

6. Downs, Marion P., M. A. "The Establishment of Hearing Aid Use, A Program for Parents." Maico Audiological Library Series.

7. Fitzgerald, Mary D., Sitton, Ann and McConnell, Freeman. "Audiometric, developmental, and learning characteristics of a group of rubella deaf children." Journal of Speech and Hearing Disorders, in press.

8. Gordon, Ira. J. "Reaching the Young Child Through Parent Education." Childhood Education. February, 1970. p. 247-249.

9. Gray and Wise. The Bases of Speech. Harper and Row, 1959.

10. Harrington, Donald, Ph. D. "Services for the Child Who is Hard of Hearing." U. S. Dept. Health, Education and Welfare, Children's Bureau, Publication No. 402, 1963. Human Communication, U.S. Dept. HEW.

11. Harris, Grace. Language for the Preschool Deaf Child. Alexander Graham Bell Association for the Deaf.

12. Hart, Beatrice Ostern. Teaching Reading to Deaf Children. Volta Bureau, 1963.

13. Heffernan, Helen. "Early Childhood Education, Influence on the Elementary School." Today's Education, April, 1970.

14. Horton, Kathyrn B. "Home Demonstration Teaching of Parents of Very Young Deaf Children." Volta Review, February, 1968.

15. Interim Guidelines for Educational Programs for Hearing Impaired Children. Alexander Graham Bell Association for the Deaf.

16. Klopf, Gordon J., Bowman, Gerda W., Adena, Jay. A Learning Teams Teacher and Auxiliary. prepared by Banks Street College of Education for the United States Office of Education. April, 1969.

REFERENCES (con't)

17. Lavatelli, Celia Stendler. "Contrasting Views of Early Childhood Education." Childhood Education, February, 1970. p. 239-246.

18. Luterman, D. "A Parent-Oriented Nursery Program for Pre-school Deaf Children." Alexander Graham Bell Association for the Deaf.

19. Myklebust, Helmer. Auditory Disorders in Children. 1954.

20. McConnell, Freeman, Ph. D. "A Parents Guide for Pre-School Deaf Children." Symposium on the Hearing Impaired Child, East Tennessee State University. Johnson City, Tennessee. May 24, 1968.

21. "A New Approach to the Management of Childhood Deafness." Pediatric Clinics of North America. May, 1970.

22. National Research Conference on Day Programs for Hearing Impaired Children. Alexander Graham Bell Association for the Deaf.

23. Reissman, F. and Gartner, Alan. "Paraprofessionals: The Effect on Children's Learning." The Urban Review. October, 1969.

24. Semple, Jean E., M. A. Hearing Impaired Pre-school Child. Charles C. Thomas Publishing Co. 1970.

25. Strang, Alice. Hearing Therapy for Children. Alexander Graham Bell Association for the Deaf.

Appendix I
PSYCHOLOGICAL REPORT

Name: A____G____ Date of Birth: 10/23/64
Date Seen: 6/1/70

Tests Administered: Leiter International Performance Scale (Arthur Adaptation), Performance Subtests from the Wechsler Preschool and Primary Scale of Intelligence.

A____ is a five year, seven month old girl who is currently attending special classes for visually and hearing impaired children in the District of Columbia Public School System. She was seen on the above date at her school and was generally quite a pleasant and cooperative child with whom to work. She was rather subdued and quite serious in her manner of relating but smiled appropriately on several occasions. She has apparently learned to use the residual vision in her left eye quite efficiently and when working with detailed visual stimuli she would tilt her head so as to look directly with her left eye. She was quite systematic in her approach to the tasks and on several occasions displayed quite excellent perseverance. Her emotional reaction to both her successes and her failures was quite restrained but it was clear that she enjoyed the former. She relied almost exclusively on gestures for communication.

On the Leiter Scale A____ did not encounter any difficulty until the sixth year level. At this point she passed half of the items and had no further successes. This performance yields a Mental Age of five years, nine months and an I.Q. of 103. A similar level of performance is seen on the WPPSI where on three of the four subtests administered she scored at or near the level expected for her age. On the fourth subtest (Block Design) she displayed a rather exceptional ability and perserverance and achieved at a level approximately one standard deviation above the mean expected for her age. This performance yields a prorated performance scale I.Q. of 104. There is no evidence on any of the tests to suggest the presence of cognitive difficulties which may lead to special learning problems.

For a child with A____'s handicaps to achieve within the "average" range based on norms for non-handicapped children is, of course, to suggest that her cognitive potential is most probably greater than indicated by these scores and may well extend into the "high-average" range. Although in general she is responding quite well to her current school placement, her teacher reports that she has both good and bad days. This is not too surprising in that she did strike me as being a child who is capable of rather wide mood swings. This problem does not seem to be particularly serious at present and from the teacher's comments it would appear that it is one that is improving rather than getting worse. Average to above-average progress can be expected from A____ in response to appropriate special educational placement.

Robert M. Dowling

Robert M. Dowling, Ph.D.
Clinical Psychologist

2-19

Appendix II

MONTHLY REPORT
RUBELLA DEAF CLASS

Class Members:		Ages:
C_____	G_____	5-7
A_____	M_____	7-0
J_____	P_____	5-5
M_____	S_____	5-8
R_____	T_____	5-5
G_____	Y_____	6-11

General Monthly Impression:

May was a month of new adjustments to be made and lots of work to be done. With the entrance of two new girls into the classroom the other children found that things were just a little bit different. Real interaction between class members began with self-discovery and initially (often) with some hostility. The completion of class enrollment up to six has spurred classroom activity and individual performances even while allowing more emotional conflicts. The two focal points of interest this month were the rhythm band and the farm - neither of which are completed units yet. The library was also a discovery point this month as we made two visits to look at books and two visits to watch the gerbils. The children's bean plants continue to grow and flourish also, much to each child's delight.

Material Covered:

Books

The Farm
Run and Play, Bank Street
The City-Country ABC, Marguerite Walters
The Green Grass Grows All Around, Hilde Hoffman
Everybody Has a House & Everybody Eats, Green
Numbers of Things, Oxenbury
All Falling Down, Lion & Graham
Let's Imagine Numbers, Wolf & Owett
Harold & the Purple Crayon, Crockett Johnson
Animal Babies, Yela; How Farms Help us, Baaty & Meuer
The Three Bears

Records: Phoebe James' series

Tape: "DLM Familiar Sounds" "DLM Rhythm Band"

Film Strips: "Numbers 1-3", "Plants"

Trips: Oxen Hill Children's Farm
White House Concert

Language (a great deal of review this month)

bird	big, bigger,	biggest	blow	nest	toy store
small	smaller	smallest	leaves	fish	slow
pom-pom	pet store	plant	bell	look	bubbles
feather	drum	farm	stick	barn	xylophone
balloon	traingle	stem	rooster	wings	butterfly
tape recorder	loud	turkey	blocks	tree	spider
brush	seeds	pine cone	farmer	legs	soft
symbals	scarecrow	arms	rough	violin	wagon
fast					

Numbers: 1 to 6
Colors: all of basic one now, plus pink
Phrases: "I wear _____." "I Eat _____. "I play with _____."
"I look at _____." "Stop." "_____ is sitting down."
"Wait." "_____ is standing up." "Play." "Turn around."
"Climb up." "Close your eyes." "Slide down." "Feel it."

Finger Plays: "Eency, Weency, spider"
"Open Them, Shut Them"
"Ball for Baby"

Song: "Let's Make a Circle", Hokey Pokey

Individual Progress:

C_____ continues to behave in a most unpredictable pattern. Depending on mood, her attention span may be as long as forty minutes or as short as five. Her tolerance for frustration continues to be very low as evidenced by the occasional need to wait for lunches in the cafeteria and C_____'s resultant crying tantrums, only subsiding when food arrives and occasionally not even then. She continues to tease incessantly and up until this time we have not found an adequate way of removing reinforcement for her behavior within the confines of the total group situation. She also continues to refuse to use her lips in any directed manner (eg. Blowing.)

On the positive side we are finding that C_____ is taking more of an interest (and/or tolerance) in playing with toys in the room. She has washed a doll appropriately, used a play telephone in an imitative manner (even mouthing something), built with blocks more extensively than ever before, crayoned successfully within a stencil and reacted pleasingly to a cow noisemaker (obviously hearing the "moo").

A_____ has never been in a school situation before this placement, she is also seven years old with some fairly well-formed conception of behavior, and as such has had some difficulty in adjusting. She is often negative or terribly stubborn in the classroom situation; she can also be painfully shy. When she does join the group for work or attends to an individual therapy session I find that she is capable of mastering the subject matter. She is quite dependent on extrinsic reinforcement for a task attempted or well-done. Without attention A_____ ceases to perform. Some improvement in this situation has been noted from the beginning of this month to the end and much more is to be expected as A_____ becomes more accustomed to "school."

J_____ is a little girl out to capture everyone's heart with the perennial smile on her face - at least outside the classroom. Inside the room I have found J_____ eager to learn and participate but often stubborn about compromising with the other children. It appears that she often has her own way at home, as she turns quite negative to school at the prospect of doing something she finds undesirable at the moment. In general though she participates with energy in classroom activities, enjoying immensly songs and fingerplays. J_____ has malarticulated but quite intelligible speech and a good deal of language. She should progress well if placed in challenging situations in the future. Work with eye-hand coordination is very much needed in a remedial manner though subject matter knowledge is readily grasped.

M_____ is improving to some degree it appears. In school I note fewer crying sessions and less echolalia - signs that M_____ is more at ease in the classroom. Most encouraging though are his more appropriate answers to questions; he often stops now to think out the answers. Mrs. S_____ has noted a great deal of improvement at home in his language fluency - less jargon and more complete sentences.

Most startling this month though was M_____'s reactions to exposure to children with other behavior problems or strange language usage. Both his mother and I were disturbed to find M_____ quite readily behaving in an imitative manner that is often difficult for him to terminate.

R_____ had a good month in May. Though sometimes losing the personal attention he would have had before he seems to really like having a full class. He enjoys other children even if his relations with them are a bit stormy. His success with the /m/ and /f/ sounds has not been well verified; R_____ has started work on phonics exercises for /m/ and

/f/, not only understanding the direction but doing the exercises with almost 100% accuracy. He knows that fish starts with /f/, an exciting revelation he continually tells me about and he realized that /f/ and /v/ look alike on the lips though production of /v/ is more difficult. His general attempt at imitative lip movements are much more successful than previously for all sounds. Distractibility and his mother, who continues to neglect his hearing aid care, continue to be major problems.

G_____ went through a negative period at the beginning of the month similar to those he went through early in the semester. It seems that he and A_____ reinforced each other perfectly for a while, or if A_____ attended to a lesson G_____ often didn't because of competion for my attention from her, J_____ and M_____. When it became clear that he had to do his classwork at the cost of playtime later in the day he became much more cooperative. G_____ enjoyed our trips immensely this month, as he attacks everything with unbounding enthusiasm and curiousity. It is often difficult to answer all of G_____'s questions and keep up with the other children too. Needless to say, progress is continual.

Appendix III

Progress Report:
J_____ P_____ (age 5)
May - June 1970

J_____ basically functions as a hard-of-hearing child. She has a great deal of language and speech and is quick to pick up more. Progress in this month is difficult to judge but the parents insist there has been some.

Emotional Adjustment

J_____ does well in almost any activity she partakes in, once she begins. She is a happy outgoing child as long as she is doing what she wants to do. Luckily J_____ has language enough to be reasoned with and talked to. In fact, she is quite "grown-up" in some ways. Her attention span is quite long and she loves learning new things. One thing J_____ does not like is being "controlled" - by having to hold hands, walk in line in any but the lead position, etc. J_____ wants to be first in everything that happens in the classroom; she is more advanced than the other children in class and she knows it all too well.

Social Adjustment

When J_____ wants to get along with the other children she has no difficulty at all, but she does not always want to. As mentioned earlier, J____ seems to hold herself above some of the other children. She is not very tolerant of their difficulties. There have been occasions when a group activity was obstructed because J_____ would not sit next to a particular child. Otherwise J____ knows and understands the principles of "sharing" and "friend."

Academic Progress

J_____ is now using some new vocabulary related to the farm, zoo, and science units we are covering. She learns songs quickly and has excellent rhythm for music in general.

J_____'s language is quite good but needs a little correction or filling-in at times. She is tolerant, and sometimes desirous, of this. Her articulation errors are consistent and may in time need directed attention as they are not spontaneously corrected with stimulation.

What may be J____'s greatest problem is coordination. Fine motor, eye-hand coordination, and even gross motor at times, are all somewhat deficient for her age level. She has a definite dominant left laterality but she has not as yet learned to perform well with it. She keeps trying though.

Parental Relations

Mr. and Mrs. P_____ are quite concerned about J_____ and seem to be helping her at home. Mr. P_____ brings J_____ to school and takes her home so contact is excellent. Mr. P_____ will be coming into the classroom one day next week; she very properly called and made the appointment herself on schedule.

Recommendations

J_____ should move up into the first grade special class, or an advanced normal kindergarten with special education help on the side. It is important that J_____ be placed with very oral expressive children as she can indeed handle this aspect of development. Very possibly she could succeed in a normal first grade class with therapy on the side but I am not sure. Suggestions will be given to the parents for the summer and her name has been submitted for a special summer program for hearing impaired youngsters.

Appendix IV

PSYCHOLOGICAL REPORT

Name: C_____ G _____

Date of Birth: 9/19/64
Date Seen: 6/7/70

Tests Administered: Selected Items from the Merrill-Palmer Scale of Mental Tests, Vineland Social Maturity Scale.

C_____ is a five year, eight month old girl who is currently enrolled in special classes for children with hearing impairments in the District of Columbia Public School System. In her school records there are numerous references to the presence of "organic behavior problems," "withdrawn behavior" and "cerebral dysfunctioning with personality overlay." Psychologist Joan Shagan at the Handicapped and Crippled Children's Unit at D.C. General Hospital saw C_____ in a form of therapy for approximately seven months prior to her enrollment in her present program. In a combination, of a structured work period using some operant techniques and a free play period it was demonstrated that C_____ could and would learn if it was demanded of her. At the end of the therapy she was able to work up to fifteen minutes without interruption. A highly structured preschool program for deaf and brain damaged children was recommended along with the possibility of exploring medication that might control C_____ hyperactivity.

C_____ is indeed a highly unusual child whose behavior is extremely idiosyncratic. At times she displays a considerable degree of autistic-like behavior but with people with whom she is familiar, such as the teacher-aide, she will play and tease and smile. With me she showed little or no affective reaction and, for that matter, very little reaction of any kind. She sat at the desk in the testing room but tended to either stare at the walls or at the stimulus material without doing very much with it. Her interest could not be aroused in any of the items from the Leiter International Performance Scale but she attempted a few of the items from the Merrill-Palmer Scale. She showed the ability to match colors, place pegs in a peg board, complete a complicated formboard, cut with a scissors and perform a simple puzzle. She was hypoactive rather than hyperactive and the teacher-aide commented that she was having an unusually quiet day. All of the Merrill-Palmer items that she did complete were at a three year level or below. She showed her greatest interest when given a blank sheet of paper and a pencil and drew both horizontal and vertical lines in a quite perseverative fashion but paid no attention to my attempts to get her to draw a circle.

With the teacher-aide serving as the informant C_____ typical daily behavior was compared with the norms from the Vineland Social Maturity Scale. She is performing many of the self-help skills expected of children between two and three years of age and a few of those generally expected of children three to four years of age. Because of her failure on more "social" type of items at the one and two year level

58

2

Name: C _____ G _____

Date of Birth: 9/19/64
Date Seen: 6/7/70

her obtained "social age" on this scale was two years, eight months which yields a "social quotient" of 46. C _____ still needs considerable help in dressing and although she will take the teacher-aide's hand to indicate that she wishes to go to the bathroom, she still needs some help in caring for herself once there. Although she plays well by herself and enjoys such things as a sliding board, she is completely aloof from the other children and does not care to play with them at all. The teacher-aide reported she had recently attempted to speak and that her attention span is also improving.

In her report on C _____'s functioning Miss Shagan commented to the effect that the upper limits of C_____'s potential could not be determined but that it was highly probable that retarded functioning and peculiar behavior problems would persist. I would agree wholeheartedly with the implications of this comment namely that although low level functioning and unusual behavior is quite likely, there is probably a good deal that can be done to train and teach C_____ and perhaps make her life more pleasant. I have no doubt that cerebral dysfunctioning results in her living in a highly idiosyncratic world where social and other stimuli have an entirely different meaning than they do for most children. Although she needs individualized attention it would be most advisable to continue her as a member of some sort of class which would at least provide the opportunity to respond to social situations. There are, fortunately, so relatively few children as severe in their degree of retarded and unusual behavior as C _____ that it is of course highly unlikely that a class for these types of children would be available. Within the Public School System perhaps the best alternative is to find a placement similar to that which she experienced this year where her presence and individualized instruction periods do not interfere with other ongoing activities and where, as indicated above, appropriate social stimulation is provided. Her need for a high degree of structure in a learning situation, of course, continues and I would further suggest the use of operant conditioning techniques in her training and education program to as great extent as this is possible.

59

Robert M. Dowling

Robert M. Dowling, Ph.D.
Clinical Psychologist

Appendix V
Hearing Record

Class: Mrs. G
Deaf-Retarded Class

Frequency in Cycles per Second

Name	Age	Ear	250	500	1000	2000	4000	8000	Date of Test
C. G.	4-6	rt.	60	70	75	60	70	NR	3-25-69
		lf.	75	85	85	70	75	NR	
J. P.	5-3	rt.	55	60	55	25	40	55	3-19-70
		lf.	60	60	55	25	40	55	
R. T.	5-5	rt.	[35	[65	NR	NR	NR	NR	4-7-70
		lf.			NR	NR	NR	NR	
G. Y.	6-7	rt.	[0 75	[5 90	[5 75	[0 65	[60 75		12-19-69
		lf.	]0 75	]30 75	]30 90	]20 80	]30 95		
M. S.			Medical file reports almost normal hearing						
A. M.			New pupil. No audiogram at present						

NR=no response
[- rt bone
] - lf bone

60

Hearing Record

Class: Mrs. C

Frequency in Cycles per Second

Name	Age	Ear	250	500	1000	2000	4000	8000	Date of Test
A.G.	5-6	rt	↓	↓	100	95	105	↓	4-4-70
		lf	↓	100	105	90	100	100	
L.D.	5-6	rt	75	80	95	100	100	NR	4-4-70
		lf	NR	75	90	80	85	65	
J.N.	5-6	rt	↓	95	90	80	90	↓	4-4-70
		lf	80	85	95	90	95	↓	
D.P.	5-6	rt	NR	NR	100	85	NR	NR	4-4-70
		lf	NR	NR	100	85	NR	NR	
T.M.	5-6	rt	Could not condition to respond						4-4-70
		lf							

*NR=no response

61

Hearing Record

Class: Mrs.

Frequency in Cycles per Second

Name	Age	Ear	250	500	1000	2000	4000	8000	Date of Test
A.L.	6-3	rt.	65	95	100	110	↓		5-13-70
		lf.	40	50	40	55	75		
W.B.	4-0	rt.	NR	90	90	110	NR		8-14-69
		lf.	50	50	55	35	10		
R.F.	5-5	rt.	45	55	60	55	60		5-18-70
		lf.	50	45	50	45	45		
K.G.	4-0	rt.	65	75	80	70	75		5-5-70
		lf.	60	75	80	70	75		
W.G.	3-5	rt.	90	90	100	105	110		3-4-70
		lf.	80	100	110	110	↓		
F.P.	8-0	rt.	40	65	75	85	85		9-19-70
		lf.	NR	NR	NR	NR	NR		
M.M.	4-0	rt.	NR	90	80	70	75		
		lf.	100	100	100	95	100		

*NR=no response

62

Appendix VI
PSYCHOLOGICAL REPORT

Name: J_____ N_____

Date of Birth: 11/21/64
Date Seen: 6/2/70

Tests Administered: Merrill-Palmer Scale of Mental Tests, Vineland Social Maturity Scale.

J_____ is a five year, six month old boy who is currently enrolled in special classes for visually and hearing impaired children in the District of Columbia Public School System. In many ways he behaves like a child who had very little social or other stimulation during his early years. That is, he generally keeps to himself and has only recently begun to relate to his classmates in a "parallel play" fashion. He expects things to be done to him and for him and will at times quite actively resist doing things for himself. There has been very significant improvement in this regard during his year at achool and he has responded quite well to his teacher's gentle but firm insistence.

With me he related in a very impersonal way and was only minimally cooperative. The presence of Mrs. Cheng, his teacher, was quite helpful with regard to the latter and it was possible to administer quite a few of the Merrill-Palmer Scale items. J____'s visual handicap is apparently quite severe and in his attitude of "being done to" rather than "doing for himself" he does not use his hands in an exploratory or information seeking way to the extent that one might expect.

On the Merrill-Palmer Scale J_____ was able to match colors and showed the ability to learn from experience when the tasks, such as the Seguin Formboard, were repeated. On this latter task, for example, he began to use his hands to gain information about the shape of the geometric design and to search out its appropriate recess in the formboard. He performed this task at approximately the 3-3.5 year level. With considerable external insistence he persevered on a task requiring the matching of the silhouette of common objects (Decroly Matching Game) and performed on this task at approximately the 4-4.5 year level. In general, however, he had very few successes beyond the 2.5-3 year level and formal scoring of the Merrill-Palmer Scale results in a mental age of two years, eight months and an I.Q. of 48. It should be kept in mind that it was possible to administer so relatively few items that formal scoring of this test is of quite questionable validity. The results should be taken as a very rough estimate of his present level of functioning and in no way indicative of his potential.

The reliability of this estimate of his present level of functioning is supported by comparison of his every day behavior with the norms from the Vineland Social Maturity Scale. With Mrs. C'___ as the informant this revealed that J_____ is performing approximately half of

PSYCHOLOGICAL REPORT

Name: J____ N ____

Date of Birth: 11/21/64
Date seen: 6/2/70

the social and self-help skills expected of children two to three years of age and nene of those beyond that point. This yields a "social age" of two years, six months and a "social quotient" of 45. He is not completely toilet trained and needs help both in dressing and undressing himself. Most of the self-help skills that he is capable of have been taught him in school in a very precise manner such as showing him exactly what motions to go through in order to wash and dry his hands. He is beginning now to relate both to adults and his classmates in a somewhat more outgoing way and just recently he has started using a crayon but makes only a scribbling back and forth motions.

Although it is quite likely that J_____ will always function at a significantly below average level I am equally convinced that his developmental potental extends considerably beyond the level indicated by the above scores. From all reports J_____ was apparently doing little more than vegetating less than nine months ago and during this period of time he has made quite significant gains. Continuation of an educational situation similar to that which he experienced this year seems indicated and it may well be quite a while before we are able to make a reasonably accurate estimate of his potential. Continued significant gains can be expected in the next school year particularly if the recent changes in his way of relating to other children are a harbinger of a new mode of interacting with others.

Robert M. Dowling

Robert M. Dowling, Ph.D.
Clinical Psychologist

CA

Appendix VII

Report of Parent Conference

Teacher: Mrs. A__ D___ -Kindergarten-Severely Hearing Impaired-Rubella

Parent: Miss T___ , mother of R_____

Date: November 25,1969

Miss T____ is a pleasant, easy going woman. R_____ is the middle child; a brother, M_____, age 6; a sister, D_____, age two years, are both normal children. Miss T____ had a miscarriage about six weeks ago. The father of all three is Mr. Y____, who is too irresponsible for marriage, but he pays the rent and the food bills. He is employed at the McBrides warehouse at Landover, Maryland. Miss T_____ does not work but receives help from her mother and brothers.

R____ is 5.1. He attended summer school at Crippled Childrens, but there is no winter program.

R___ has a Zenith Hearing Aid given to him by Children's Speech and Hearing Center, but apparently had no theraphy. His mother says he can say "Mamma" and "Barbara", but has no other speech.

R____ wears a leg brace on his left leg, but only at night.

R____ was a seven months baby. The mother apparently had rubella. He stayed in the hospital until he was almost two years old. After he was released the mother noticed he was not progressing like the other children and took him to Children's Hospital for examination.

65

Appendix VII

Report of Parent Conference

Teacher: Mrs. A_ D____-Kindergarten-Severely Hearing Impaired-Rubella

Parent: Mrs.E_____ mother of D._____

Date: November 24,1969

D ____has been absent for a week with measles. Mrs. E____ came in at 10 o'clock this morning and brought D____ to school because he cries when he is unable to attend school. In fact, he awakens his mother on Saturdays and Sundays to tell her it is time for school.

D ____is on new medication to calm him down. He is very agreeable, pleasant and cooperative in school. His mother says he is good most of the time at home, but a couple of weeks ago he took crayons and magic markers and scribbled all over the newly painted walls. He of course does this when no one is watching. His mother says he does not stay "out" when he has seizures, but revives immediately.

D____ lives with his mother; his father is serving time for burgulary; his step-grand-father is also in the house as is his grand-father. His grandfather often disappears for several days an a little binge. The grandmother is very fond of D____ and often rocks him for several hours until he falls asleep. The grandmother has been gone for two weeks and the mother has lain down next to D____ whereupon he has fallen asleep. It was suggested that this practice be continued to replace the rocking.

The mother has tremendous problems. She is living on a $50.00 per week compensation which runs out January 3rd. She will apply for welfare at this time. She has been on a O.I.C. job training course to be a punch press operator. She was forced to discontinue this three weeks age when her children had the measles, but hopes to resume the training when the new course starts in March.

Mrs. E____ has a severe articulation problem-evidenced in D____'s speech. She has an upper but no lower plate. Apparently there is a problem in fitting a lower one. I suggested she take care of this immediately, and that I would be glad to help with a recommendation.

Mrs. E_____is very anxious for D_____. Apparently D_____ is the light of the fathers life. Mrs. E____ thinks his difficulty started when he fell out of the crib at the age of two. She took him to D.C. General at about two and a half years of age because he was not progressing like the other children.

66

Appendix VIII

REPORT OF PARENTS' MEETING

Tuesday, May 26, 1970

The meeting began with a talk by Mrs. Peggy Gorham, Director of the Information Center for Handicapped Children. Mrs. Gorham discussed the work of the Center and some of her personal feelings and experiences as the mother of a profoundly handicapped child.

There was a general discussion which primarily centered around summer programs.

Dr. Wolf explained the reason for the cancellation of our planned benefit and the fact that Mr. Harry Grief, the President of the Friends of the Developmental Center was moving out of town. She suggested that the parents select new representatives to the "Friends" to work with the Center on various projects and causes including:

A. Speaking to appropriate representatives concerning

(1) Passage of proposals for funding
(2) Improved bus services

B. Ideas for raising funds for teachers to use to make direct purchases.

C. General communication about meetings, special trips, notification about television or radio shows, etc.

Mrs. M____ volunteered to be the president, and Mr. T_____ volunteered Mrs. T_____ as vice president. All other parents gave their support.

Parents present were:

Mr. T_____
Mrs. M_____
Mrs. J____
Mrs. G_____
Mrs. J_____
Mrs. G_____

Mrs. P_____
Mrs. C____
Mrs. G____
Mrs. W___
Mr. & Mrs. N_____

Report of Parents' Meeting, May 26, 1970 (cont'd)

Parents selected to represent groups were:

Aphasic class	- Mrs. M_____ Mrs. T___
Mrs. Duffy's class	- Mrs. J_____ Mrs. G_____
Mrs. Young's class	- Mrs. C_____
Mrs. Cheng's class	- Mrs. W___

Mrs. M_____ will be given a complete list of (1) our parents, and (2) Board members and the wards they represent. This list will be mailed to all parents.

Dr. Enid G. Wolf

cc: Mrs. O'Connor

68

May 26, 1970

Walter has some foil.

William has green glasses.

Frankie has a new brown suit and cuff links

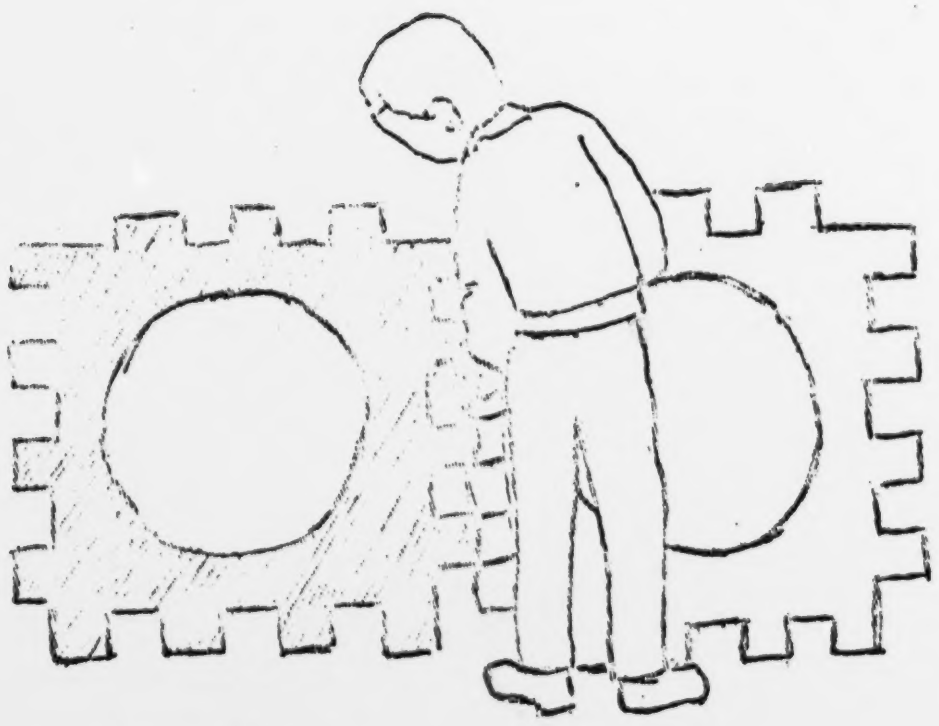
Thursday we are going on a trip.

We are going to the White House.

President Nixon lives there.

Appendix X

Plastic snap wall
makes swinging doors and crawl
through hatches.



30" X 30" X 2"

Final Evaluation Report

ESEA Title III Special Education Project

Seriously Emotionally Handicapped: A Program Based on Principles of Behavior Modification

Prepared by: Dr. Shlomo Cohen, Ph.D.
Director, Behavior Modification Project
Anne Arundel Training Center

Project Summary

Title: Seriously Emotionally Handicapped: A Program Based on Principles of Behavior Modification

Group Served: Socially, emotionally, maladjusted children who were previously uncontrollable and uncontainable in a public school milieu.

Project Location: Six elementary schools: Amidon, Barnard, Clark, Giddings, Perry and Van Ness (after several weeks, the programs operated at 4 of these schools)

Title III Funds Allocated: $29,416

Number of Children Served: 53 (Initially the number was 48)

Background and Rationale:

Seven hundred sixty-one children had been identified in the District as emotionally handicapped. Some of these children were in social adjustment classes, some were in other programs or agencies for the emotionally handicapped. Many of these children were outside the regular classroom because of behavior problems. Sufficient facilities to accommodate these children are inadequate in the Public School System. Private institutions are beyond the means of most parents with handicapped children.

Research has shown that principles of Behavior Modification applied to educationally related problems of the emotionally handicapped have netted very positive results. With this in mind, a program, with considerably lower per-pupil costs than in the District's public schools, was designed to provide full-time instruction to meet the individual academic and social needs of these children within the District's classrooms.

Project Objectives:

The specific objectives of the proposal were as follows:

1. To conduct systematic, empirical research to demonstrate the effectiveness of behavior modification as an educational technique for work with seriously, emotionally, socially handicapped children.

2. To provide a full-time instructional program for seriously emotionally handicapped children specifically geared to eliminate their undesirable behavior and return them to the mainstream of public school education.

3. To involve the parents of the children in the total educational program through participation in classroom teaching as para-professionals followed by group seminars and discussions.

4. To provide a laboratory-classroom setting for the in-service training of teachers and graduate students concerned with the education of emotionally handicapped children.

Project Methodology:

The principles of Behavior Modification were utilized with fifty-three seriously emotionally handicapped children distributed initially in six classes and finally concentrated in four classes. At first the Behavior Modification techniques were applied within an Engineered Classroom setting patterned after F.M. Hewett's models in California. Because of a variety of problems, both practical and theoretical, the staff developed modifications to the Engineered Classroom and after a few weeks implemented a modified program entitled Designed Individualized Learning Experiences (DILE). A full-time instructional program was geared specifically to meet individual needs and to eliminate undesirable behaviors. The goal was to return the children to the mainstream of public school education.

Evaluation Plan:

In conjunction with a built-in plan of continual evaluation by the project staff, a consultant with expertise in Behavior Modification principles evaluated the project. The consultant's evaluation was based primarily upon information gleaned from direct observation in the classrooms, from discussions with teachers, aides, school administrators, and project administrators. Other information was obtained from teacher records and school records.

Results:

Prior to the consultant's evaluation, the project Director and staff realized that the original design of the Engineered Classroom was inappropriate. The necessary modifications were made and a program of Designed Individualized Learning Experiences (DILE) was implemented. Initially, in the Engineered Classroom, the students were not responding positively to the training; following the implementation of a more individualized program based on individual needs and problems, the children moved with more positive direction. The result was more desired behavior and increased student progress both academically and socially. No staff training program was established. There was no parent program. Because the staff were not trained in data collection, conclusive evaluation was difficult.

Consultant's Comments and Recommendations:

The consultant's four major recommendations are:

1. An on-going staff training program should be developed
2. A parent program should be established
3. School administrations should be included in planning and developing the program
4. A well-planned evaluation program should be designed and implemented

The consultant emphasized that although the program was not successful in all the specified objectives, there were unwritten objectives which were fulfilled that were commendable. A design relevant to the needs of each student was developed. A learning situation was developed in the process of shifting from the Engineered Classroom to the DILE Classroom. The consultant expressed the belief that, despite several weaknesses, the project was one of great potential with valuable implications for the public educational system.

Abstract
Final Evaluation Report

Title: Seriously Emotionally Handicapped: A Program Based on Principles of Behavior Modification

Background:

As of March 1, 1969, 761 children in the District of Columbia had been identified as emotionally handicapped. Five hundred thirty-six children are presently in Social Adjustment classes because of behavior problems. Others have been removed entirely from a classroom setting and receive instruction from the Visiting Instruction Corps of teachers, placed in institutional programs, and some children are trained in their home for one hour per day, two days per week.

Because of the great increase of children who will be identified as "socially, emotionally, maladjusted," there will not be sufficient facilities to accommodate them. Tuition at private institutions will be beyond the reach of most of these children. The cost to the Public Schools is $4,000 or more per year, per child. For an approximate cost of $2,600, these children could be provided with a full-time instructional program within the District's classrooms. Such a program would be designed to meet individual academic and social needs.

Empirical research studies which have applied the principles of Behavior Modification to specific educational problems relating to the emotionally handicapped child have shown dramatic results. It is to this end that a program is proposed.

Director: Dr. Stanley Jackson

Location: Six elementary schools: Amidon, Barnard, Clark, Giddings, Perry and Van Ness

Date: June 1, 1969 - September 30, 1970

Target Population: Forty-eight seriously emotionally, socially handicapped children attending school in the Public Schools of the District of Columbia on a full-time basis will be identified. Preference will be given to those children considered to be most seriously handicapped providing they meet other criteria for selection.

Staff: One Director, 6 Teachers, and 6 Teacher Aides

Cost: $29,416

Purpose: The primary purpose is to conduct systematic empirical research to demonstrate the effectiveness of Behavior Modification as an educational technique for work with seriously emotionally, socially handicapped children, to conduct a full-time instructional program geared specifically to eliminate the undesirable behaviors of the children; and eventually return them to the mainstream of Public School Education. Parental involvement and in-service training will be inherent in the project implementation.

EVALUATION OF A PROJECT UTILIZING PRINCIPLES OF BEHAVIOR MODIFICATION TO PROVIDE EDUCATIONAL PROGRAMS FOR SERIOUSLY EMOTIONALLY HANDICAPPED CHILDREN

Abstract

Purpose:

The purpose of the work which culminated in this report was to evaluate the project to apply behavior modification techniques in the education of seriously emotionally handicapped children. The nine month program was designed to create throughout the inner-city six elementary school classrooms in which previously uncontrollable and uncontainable students would make academic progress in environments utilizing behavior modification techniques. The project was to provide training programs for staff and parents in addition to demonstrating academic and social progress of the children.

Procedures:

Information about the programs was obtained by means of direct observation in the classrooms, discussions with teachers, aides, school administrators, and project administration. Additional information was gathered from teacher records and school records.

Findings:

The original design of the program was inappropriate and modified accordingly. Before the modifications occurred, two of the six classrooms were closed. Children who previously were neither contained nor controlled in classrooms appeared to be sitting happily in classrooms and making academic and social progress. Neither a staff training program nor a parent program was established. Staff were not trained in data collection and therefore, little usable data was available for a conclusive evaluation.

The lack of a specified control group left most of the research questions unanswered. Problems existed in the communication between project administration and the various school administrations.

Recommendations:

The major recommendations are:

1. An ongoing staff training program should be developed.
2. A parent program should be established.
3. School administrations should be included in planning and developing the program.
4. A well planned evaluation program should be designed and implemented.

ACKNOWLEDGMENTS

The author wishes to acknowledge the assistance offered by Mrs. Lavolia Vails who assisted in collection of some of the data and who, together with Dr. Mildred Cooper offered suggestions regarding the format and style of this report.

Thanks are due to Mr. Michael Nathensen and Mr. Ed Wolkin of the Project DILE administration, both of whom participated in lengthy discussions at the Developmental Center for Special Education. Thanks are also due to Project DILE staff who welcomed me into their classrooms and patiently discussed the project and answered my questions.

Thanks are due to school administrators who gave willingly of their valuable time to discuss various aspects of the project from the point of view of school principals.

Thanks are due to Mrs. Betty Gardisky and Mrs. Barbara Havehost who worked dilingently in typing parts of this report.

Special thanks are due Mrs. Mary Ann Hogan who typed, proofread, and in other ways helped to prepare the final draft of this report.

Introduction

For the past decade, psychologists and educators in increasing numbers have been turning to the application of behavioral techniques in treating a wide variety of problems, generally resistant to more traditional clinical approaches (Ullman & Krasner, 1965; Krumboltz & Thoreson, 1969). Particularly, there has been a move toward the use of behavioral technology in education. This movement has achieved such momentum that a national conference devoted specifically to "Applied Behavioral Analysis in Education" was recently held (April, 1970) at the University of Kansas. It is therefore understandable and desirable that behavior modification techniques be investigated as a possible methodology for helping to solve the problems of emotionally handicapped students within the D. C. Public School System.

On April 23, 1969, the Advisory Committee for Special Education recommended funding by the Office of Education (DHEW) of the project proposal in the amount of $28,000 for the period extending from June 1, 1969 to September 30, 1970. The project was funded in May, 1969. The project was to focus on forty-eight (48) severely emotionally handicapped children who were placed either in special adjustment classes, were attending school part-time, or were excluded entirely from school and were receiving home instruction. The Department of Pupil Personnel Services of the D. C. Schools was charged with selecting the 48 children.

The specific objectives of the proposal were as follows:

A. To conduct systematic, empirical research to demonstrate the effectiveness of behavior modification as an educational technique for work with seriously, emotionally, socially handicapped children.

B. To provide a full-time instructional program for seriously emotionally handicapped children specifically geared to eliminate their undesirable behavior and return them to the mainstream of public school education.

C. To involve the parents of the children in the total educational program through participation in classroom teaching as paraprofessionals followed by group seminars and discussions.

D. To provide a laboratory-classroom setting for the in-service training of teachers and graduate students concerned with the education of emotionally handicapped children.

It was further hoped that a packaged, in-service training program for special education teachers would result from the in-service training program of the project.

The proposal called for six classrooms physically adapted for observation purposes, the use of video tape equipment in observing and training, and the use of behavior modification techniques (principally a

token (checkmark reward) system and a time-out (punishment) system) in bringing about desirable changes in the social and academic behaviors of the students in the classrooms.

The 48 children who were accepted into the program were to have been referred by the Department of Pupil Personnel Services, were to have WISC or S-B I.Q.'s between 85-113, and were to be free from primary physical handicap. Sections of the Wide Range Achievement Tests (WRAT) and California Achievement Test (CAT) were to be administered before, during, and after the treatment program in a design using each student as his own control.

In specifying some of the concerns in evaluating the use of a token economy, the proposal also posed the following questions.

(1) What is the effect of a token system on seriously emotionally handicapped children who previously have been in regular classes?

(2) What is the effect of a token system on emotionally handicapped children who previously have been in small individualized classes which did not employ such a token system?

(3) What will be the effect of abruptly withdrawing the token system from a class of emotionally handicapped children who have become accustomed to it?

A design employing control groups to investigate these questions was proposed. An elaborate observation program to measure time on task was also outlined as part of the experiment. Time on task was to be a primary dependent variable.

The Department of Pupil Personnel Services was slow to assign students to the special project classrooms. It was anticipated that 6 classrooms would begin operation on September 24, 1969. On October 1, 1969, a letter was sent to Pupil Personnel Services stressing the importance of quickly selecting the subjects and control children for the project. The engineered classrooms actually began operation toward the middle of October.

One classroom was set up in each of five community elementary schools: Barnard, Clark, Giddings, Van Ness and Amidon. An additional classroom was established at Perry School, for students throughout the city who had been assigned to home instruction. All project personnel interviewed indicated that the engineered classroom was successful for the first two weeks, "until the novelty wore off." The situations in Van Ness and Amidon Schools became so untenable, that the project was asked to leave those schools (Details, Appendix E). In the remaining four schools, changes were made in contingency management procedures so that a somewhat different and more effective program evolved to meet the needs of the target population.

Appropriateness of the Engineered Classroom

Engineered classrooms have been effective in enhancing the academic and social progress of students in various school districts, mostly in California. There is legitimate question, however, as to the appropriateness of lifting a totally designed classroom from one region and transplanting it to another. It is the contention of this author that after one decides on a behavior modification approach, an appropriate procedure is to utilize the skills of area experts in building the program. (It is the understanding of this writer that this suggestion has been acted upon for FY 1971-72.) The Washington, D. C. Area has a relatively large number of professionals of national repute who are competent in the application of behavior modification in educational settings. Recruiting the expertise of local professionals might have prevented some of the initial failures of the present project.

There is question on theoretical grounds as to some of the procedures described as part of E.C. For instance, the design calls for: (1) a specific number of checkmarks to be given to students for specified tasks such as starting an assignment, (2) checkmarks being given out after a specified period of time has elapsed, and (3) the design also states that "extra checkmarks might be given a particular child when necessary for motivation" (Hewett, 1967). In a design which is to guarantee student success, aim toward individualizing instruction, and strengthen (through token and social reinforcement) desirable behaviors, the above three statements are questionable. The first statement does not consider that students may come into the class situation at different levels. It assumes that all students are equally skillful in the specified tasks and, therefore should receive the same specified reward. This is contrary to a behavior modification approach, which considers the current level of student performance and which, through the systematic use of shaping and fading procedures, gradually and effectively builds the behavioral repertoire of the individual. The second statement regarding the time criterion for delivering reinforcement is also (initially) contrary to a behavior modification approach. The criterion for delivering reinforcement (in the initial states of a program to develop behaviors) should be a behavioral criterion. That is, when an appropriate behavior is emitted, it should be reinforced immediately, not five minutes after emission. This is particularly the case when one is dealing with fragile behaviors, like those of most of the students in the E. C. project. The third statement regarding "extra checkmarks when necessary for motivation" is particularly disturbing to this writer. One may speculate that a teacher would arrive at the conclusion that more motivation of the student is necessary when the student is not working, or doing something other than working such as fidgeting, dropping utensils, yawning, sleeping, etc. What Hewett (1967) seems to suggest is that the child emitting these undesirable behaviors is not motivated and therefore, should be given a few extra checkmarks to motivate him. Principles of behavior modification state that those behaviors followed by reinforcement are reinforced and therefore, the teacher who delivers checkmarks while or after a student is not working is reinforcing behaviors other than (and often incompatible with) work. (This is an

unfortunate instance of employing a behavioral model, but not behavioral criteria. Motivation or lack of it, is not a behavioral fact, but a hypothesized internal state.)

Before December, the classes at Van Ness and Amidon were closed down. One class remained at each of Barnard, Clark, Giddings, and Perry.

Evolution of Project DILE

In response to the two classes that failed (Details, Appendix E) and to continuing difficulties with E.C. (and other aspects of the program, e.g., lack of project staff meetings) some alterations of the program began to evolve. This evolution resulted in a new project called Design Individualized Learning Environments (D.I.L.E.). Project DILE had certain advantages over the E.C. Model. For one, DILE was built with the knowledge and experience gained from attempts with E.C. Also DILE borrowed heavily from E.C. and retained those aspects which seemed appropriate to the four classroom situations. DILE seems to be flexible, and instruction is individualized. DILE staff members employ behavioral criteria in place of time criteria (for dispensing checkmarks). Very important, however, is the fact that many curriculum materials unavailable to E.C. became available to DILE. The importance of good curriculum materials cannot be underestimated in any educational setting. In an educational setting striving to individualize the academic process, good curriculum materials are even more important.

In an individualized academic demonstration project such as DILE the criteria for curriculum materials should include: (1) materials programmed in such a way as to maintain individual seat-work supplemented by occasional teacher assistance; (2) materials which gradually increase the behavioral demands on the student; (3) materials which have built-in pre- and post-tests and frequent progress checks, so that feedback regarding student progress is constantly available.

Sullivan and SRA reading materials, as well as the reading program for the Borg-Warner System 80 teaching machine satisfy these criteria, although project leadership did emphasize that IPI reading materials were eagerly awaited. The reading program is supplemented by the BANK Street reading program. Individualized Prescribed Instruction (IPI) materials form the basis of the mathematics program. The IPI materials seem to be excellent when evaluated against the criteria specified above. A serious fault in the DILE project at present is the lack of Science and Social Studies curriculum materials. In view of the scarcity of good commercially prepared programs known to DILE staff members, DILE personnel are presently building a program for Social Studies and a program for Science. The remainder of this report will deal with the evaluation of the DILE Classrooms in Barnard, Clark, Perry, and Giddings Schools. (Details, Appendices A, B, C, and D).

Students in DILE Classrooms

The classes in the four schools are populated by students, each of whom has a history of academic failure (of one kind or another) and/or social maladjustment. Several reports from the Department of Pupil Personnel Services have described some of the individual children as "lethargic," "inept in practical social relations," "seeing himself as inadequate," "withdrawn," "repressing tendencies to act out hostile feelings," "having perceptual problems," "disruptive," "noisy," "inattentive," "impulsive," "inclined toward acting out," "aggressive," "displaying immature mannerisms," "in need of warmth," "moody," "prone to sudden outbursts," "lacking self-control," "hyperactive," "having poor emotional stability," "having feelings of insecurity," "having little initiate," "academically retarded," "lacking self-confidence," "irresponsible in behavior," "attention-seeking," "needing to strengthen his self-image," "defying authority," "having significant emotional turmoil within," "enduring many inner stresses and insecurities," "totally out of contact with the immediate surroundings," "listless," and "having a gross learning deficiency." Although the reliability of the above labels is questionable, there is no question that the students selected to be admitted to the project classrooms were not being effectively dealt with by the school system, and that they had posed problems (some for quite a while) for the schools in which they were enrolled. Further evidence to support this contention can be seen in the more than usual number of school and/or teacher transfers which are on the records of the students. Thus, any evidence suggesting progress of these children, must be viewed as great success, in view of the fact that numerous previous attempts to work with these children have unequivocally failed.

Classes at Barnard, Clark, Perry and Giddings Elementary Schools

Barnard

On Tuesday, March 17, the present author visited Barnard School from 8:55 A.M. to 5:05 P.M. The following report is a summary of the more complete account of that visit (Details, Appendix A).

Mrs. S., the school principal supports the program, and indicated that it is better than it was. She expressed hopes that the program would be continued in her school during the coming year.

The DILE classroom is staffed by one teacher, two aides, and includes eight students. The teacher described each class member as "at least one and a half years behind his grade placement."

The physical layouts of the DILE classrooms in the four different schools are essentially the same. At Barnard, in the center of the room are tables which serve as desks. Around the room are various activity centers. One center houses carrels with a teaching machine; a second center has a carrel with a typewriter; a third center houses the phonograph and records; a fourth center has a table as a science area; and a fifth center is a communications area. Displays of student work could be seen on some bulletin boards.

The basic objective of the program is "to get students to return to the normal classroom situation both behaviorally and academically." Other more immediate goals for all students are: (1) to get students to raise their hands; (2) to get students to remain quietly in their seats; (3) to get students to do academic work; (4) to get students to remain in the particular area in which they are working. Individualized goals relevant to the particular behavioral problems of individual students are also formulated. For one student the staff may be attempting to strengthen "sitting straight rather than tipping the chair;" while for a second student, the staff may be trying to strengthen "appropriate facial gestures."

Class Routine

As each student arrives in the morning, he retrives his work record from the bulletin board. On the work record card is a grid of 150 squares into which staff members enter checkmarks. When the card is filled with 150 checks, it may be exchanged for a reward. Checkmarks are earned when students emit appropriate academic and social behaviors. When the student retrieves his work record card, he goes to his desk and begins an order task. This is usually a simple task, such as connecting numbered dots, or looking up words in the "Pictionary." Upon completion of the order task, a student receives some checks and his work folder from which he may choose assignments. Different assignments earn different amounts of checks, and some latitude exists so that the skill level of each student may be considered. Generally, Sullivan reading materials are emphasized in the early period, although other reading and math assignments may be chosen by a student. As the assignments are completed, academic checkmarks may be earned. Social checkmarks may be earned at any time. The initial work period extends from 9:15 A.M. to 10:40 A.M. During this period students may also sign up to work through programs on the Borg-Warner System 80 teaching machine. Students are eager to work on this machine as is evidenced by the machine's constant use. This suggests the possibility that students buy the use of the machine. Morning recess generally extends for 30-45 minutes and is followed by a forty-minute period described by an aide as "the most difficult time of the day." This is the period before lunch when a variety of activities takes place in an environment less structured than that preceeding recess. Some students continue to work from folders; other students visit various centers in the room and still others appear to be just waiting for the lunch period. During lunch, some students go home, others eat in the classroom. When the children who remain in the classroom have finished their lunches, they play with the classroom equipment, such as records, musical instruments, games, toys, etc.

At Barnard, afternoon session is generally devoted to developing academic and social behaviors in group activities rather than individual activities. After lunch, a story reading activity took place. The students sat on chairs around the teacher who read for 15-20 minutes. Checkmarks were given out to students who sat appropriately and to students who correctly answered questions. Following the group story activity, an aide led a group map making activity, which required the use of

paper and paste. Within 20 minutes, staff members were watching the students (in place of directing them) work. (This is certainly an excellent way to develop desirable social behaviors controlled by social peers rather than by staff). Staff members resumed the leadership of the activity before trouble began, thus responding to desirable social behavior, rather than to undesirable behavior. At approximately 2:00 P.M., afternoon recess began. Afternoon recess may be extended for the complete hour, depending on how well the students behave. At 3:00 P.M. the students leave for home. Immediately prior to lunch and immediately prior to going home, students may exchange the filled-in work record cards for rewards. Rewards used generally include small toys, candy, and magic marker pens. Cards need not be exchanged however, as evidenced by several students who are saving cards in order to gain more valuable (and expensive) reinforcers.

When undesirable behaviors are emitted by students, staff members are to either ignore the behavior, punish it by adding more squares to the work record card, or place the child in time-out. As in many other settings in which aversive control is employed, it is not effective in DILE classrooms. Aversive control is not effective in this setting for a number of reasons, primarily among them being that the staff members are inadequately trained in the application of behavior modification principles. First, staff members do not succeed in ignoring undesirable behavior. Instead, they respond with warnings and threats (possible reinforcing consequences) to undesirable behavior. Secondly, the requirement of more academic work (in order to earn the checkmarks required to fill in additional squares) may not be aversive, as staff members assume. Third, and most disturbing, the time-out procedures are very poorly managed. The teacher at Barnard views time-out as "removal of the child from the classroom where he can go somewhere for a cooling-off period and talk it out with a staff member." If this is an accurate description of the use of time-out at Barnard, then students might "work" to have the opportunity to "talk it out" with a staff member in the corridor. Time-out, like other aversive techniques, focuses the attention of the staff member on undesirable behavior. By giving the staff member a punisher, we increase the probability that he will punish. Instead, perhaps, "X's" next to a student's name on the board should be written when the student emits a desirable response. These "X's" could then be used as tokens.

The general impression in the Barnard class is one of good progress. Students, unsuccessful in previous settings, sit relatively quietly and uninterrupted for periods as long as an hour. During the entire day at Barnard, no behavior was observed that could be labeled bizarre. Students seemed interested and happy in this setting.

Some failings of the program result from inadequate training of staff in principles of behavior modification. A second major failing of the program is that there has not been an ongoing evaluation procedure built into the program. Testing prior to the program was haphazard and data on some students are lacking.

Furthermore, there seem to be many lost opportunities for using natural events in the school setting as reinforcers. Such things as opportunity to be a teacher's aide, give out milk, bring back lunches for others, sit in class with shoes off, sit near a friend, recess, etc., are potential reinforcers which can be systematically built into programs at no expense to the teacher or school. These items were not, however, used as reinforcers in the Barnard class; possibly because the staff was not trained in locating and specifying reinforcers for students. Some staff members continue to have faith in an "inner disturbance" model as the appropriate one for explaining the behavior of these children. At Barnard, a staff member said, "Recess is free; it is not contingent on good social and academic performances. This is necessary because the children need the recess and it is precisely the ones who can't buy it who need the recess the most." The implication here is that it is the disruptive "disturbed" students who should get recess (because he is "disturbed" and disruptive). Reinforcement theory suggests this is an effective way to teach children to be disruptive and "disturbed."

A good technique employed by the staff at Barnard (and the other schools) is the immediate responses to a student who has raised his hand. Staff members would say, "I see your hand, I'm coming over" immediately after a hand is raised. This reinforces hand raising and also preempts calling out. However, observation revealed that teachers approached individual working students only after a hand was raised. Hands are raised when students finish work, encounter difficulties, or ask questions. Thus, the contingencies of reinforcement set-up by this intervention procedure, strengthen "encountering difficulty." Staff should also respond to students in positive ways at times when their hands are not raised. Staff members should reward students for good work as they are doing it, not only when they are "stuck." A slogan of Dr. Wesley Becker is an appropriate guideline with respect to the above. "Catch a child being good!" In other words, staff members should be reinforcing desirable behaviors all the time, not only after a hand is raised.

Another failing of the program is the lack of an observation program. Two suggestions are relevant here. One, all staff should be trained in techniques of observation and should occasionally serve as observers in their own, or in other project classrooms. This would not only provide useful process data, but would allow staff members to view classes other than their own, and also might provide for better use of staff time. Often, staff members wait in the back of the room for students to raise their hands. Instead, staff members could either be involved in an observation program, or in the preparing of materials. A second suggestion is to have other teachers in the school spend short periods of time as observers in the DILE classrooms. This would allow all school staff to be involved in the project and to get a better understanding of it.

There is a tendency in programs such as DILE, in which an elaborate system has been built to control student behavior, to overlook the effects of the minute-to-minute student-teacher interactions on student behavior. Thus, in such a program, it frequently doesn't seem crucial to intensively

train the staff, because "the system itself will carry the program." Perhaps some data on the minute-to-minute interactions of staff and student would best illustrate the necessity to develop an intensive staff training program.

The following data were recorded from 11:40 A.M. to 11:53 A.M. During the week in which the observation was made, the individual behavior of concern for student E. was not tilting the chair. This was defined as having all four legs of the chair on the ground. Observations were made in thirty-second intervals. The student's behavior and teacher response were observed. The data show that the student sat straight for 73% of the invervals and did not sit straight for 34% of the intervals. The importance of these data however, are not in the student's behavior, but in the teacher-student interaction. These data show that during the 17 intervals in which appropriate behavior was emitted, only two reinforcements were given out by staff. During 8 intervals of inappropriate behavior, six reinforcements were given. Therefore, during this very small sample of behavior, staff members tended to reinforce undesirable behavior much more frequently than desirable behavior. The observation revealed, in fact, that most of the undesirable behavior was a direct function of staff behavior. Staff members who spoke to this student did not stand across the desk in front of the child, but stooped beside the seated student. In order for the student to look directly at the person speaking to him, it was necessary for him to lean back in his chair or to turn his chair sideways. A simple solution to this problem would be to have staff members stand in front of the child when interacting with him. Another example of staff members responding to undesirable (rather than desirable) behavior occurred during the map making activity. Rather than complimenting students on how neat they were, several remarks such as, "Oh, you've gotten your sleeve full of paste," were made. Therefore, a major problem is to train staff members to systematically use their own behaviors as a reinforcer to learn how to use the teacher-student interaction in ways to build desirable student behavior.

A problem exists with the latitude that the staff has allowed itself in giving out checkmarks to students. It is agreed that the number of checkmarks earned by students should be related to the work and the skill level of the child. However, rules should be established regarding the dispensing of the checkmarks. In the present situation, a student receives more checks if the staff member feels that the work is difficult for the student, but he somehow manages to complete it. This is generally guaged by how fidgety the child is, and how long it takes the child to do the work. Thus, a student can earn more by taking longer. Rules should be set up to change this existing contingency.

The program at Barnard does not actively involve the parents of the children at any level. This is a very serious fault since other programs (Cohen, et al., 1969) have involved the parents and demonstrated positive changes in student behavior in school and at home. A recommendation regarding parent involvement is that an open house be held in the evening for the parents. The parents would play the role of their children. They

TABLE I

STUDENT E SITTING STRAIGHT

TEACHER RESPONSE

Intervals (30")	Straight	Not Straight	Teacher* Response	Comments
1.	/		I	
2.	/		I	
3.	/		I	
4.	/	/	R	He leaned back on his chair while talking to the teacher. She continued to interact with him, and while he was leaning back she gave checkmarks for academic work.
5.		/	R	
6.		/	I	
7.	/		R	
8.	/		I	
9.	/		I	
10.	/		I	
11.	/		I	
12.	/		I	
13.	/		I	
14.	/		I	
15.	/		I	
16.	/		I	
17.		/	R	Teacher talking to him.
18.	/		I	
19.	/		I	
20.		/	R	
21.		/	R	
22.		/	R	
23.		/	R	

* I - ignore
R - reinforce

would come in and perform an order task. They would have work-record cards, work folders, receive checkmarks for desirable academic and social behaviors. They could exchange their checkmarks for coffee and donuts, which would be served before the discussion part of the open house. One of the primary reasons that parents have not been actively involved in the program is most likely that project staff have not been trained in working with parents. In one of the few parent-teacher interactions, R's mother did tell the teacher that, "R goes to sleep early so that he can get up to come to school on time." In general, attendance in the classrooms is very good. Students who were at one time considered truant now have good attendance records. (Some of the students at Perry School ride D. C. Transit buses a long way to regularly be in school.)

The period of time from 10:30 A.M. - 3:00 P.M. is more loosely structured than the initial hour and a half. As the situation is less structured, teacher and student behavior deteriorates. Generally there was greater use of aversive control by staff after 10:30 A.M., than during the work period from 9:00 A.M. to 10:30 A.M. One suggestion is to program more and shorter work periods into the day, or break up the morning work period into one hour in the morning, and one hour in the afternoon.

There may be concern over the fact that there are three staff members to eight students in the Barnard classroom. In the initial year of a project such as DILE, a high staff to student ratio is not unusual. If such a ratio continues however, there would be legitimate cause for concern. The structure and dynamics of the classroom require that there be a teacher and an aide in each room. It would be desirable to supplement the staff with parent help. Once experience is gained from the first year, management procedures are further developed, and curriculum problems are solved, it should be possible to conduct a class of up to 15 students with teacher and aide. The possibility of using junior and high school students (at no increased financial burden) as teacher aides should be investigated.

Visits to Clark, Giddings, and Perry Schools revealed that the classrooms in those schools were very similar to the Barnard class along the dimensions of physical characteristics, contingency management procedures, and daily routines. The reports on these three schools will highlight the aspects of these three programs which significantly differ from Barnard.

Clark

Dr. R, Principal of Clark, spoke very favorably of the program. He stated that the classroom seemed "well thought out," and also that "it brings new hardware and materials" to the school. He added that some other staff members were resentful because the class was staffed by new teachers, and not from teachers within the school. Mr. N., Project Director, had previously stated that he felt that more experienced teachers have a repertoire of teaching behaviors incompatible with different teaching skills required in Project DILE classrooms. However, if one claims

to employ a behavioral technology to modify the behavior of students, surely that technology is also effective in modifying the behavior of teachers. Therefore, Dr. R's point regarding resentment by other staff members is well-taken. An in-service training program should be built to include all teachers who are interested in taking a course in behavior modification. Some of the experienced teachers could then be used as staff in future DILE classrooms. A research project might be set up to compare the effectiveness of experienced and naive teachers so that Mr. N.'s hypothesis could be investigated. Dr. R. concluded that he strongly hoped the DILE project will continue in his school. The Clark classroom was to be made up of older students from the fourth and fifth grades. At the time of my visit, there were six students enrolled in the class with one teacher and one aide. The science area at Clark seemed to be the busiest center. Students were eager to work in the science area with Mr. E. the teacher. So much was going on in the science area that it seemed feasible to use opportunity to work in science as a reinforcer to follow a less frequent student behavior.

In order to go to recess, each student is required to complete three assignments chosen from his work folder during the morning. Students do not, however, exchange checkmarks for morning recess. An analysis reveals that these contingencies do not presently support the behaviors desired. The staff in this classroom admittedly does not accurately gauge what is a legitimate amount of work for each student. Therefore, several students finish three assignments quickly, and because only three assignments are necessary for recess, they do no more work during the morning. A possible correction of this would be to equate each check earned with a specified amount of time (i.e., one check equals one minute of recess). Thus, students would continue to earn more recess as they continued to work. Obviously, some students would initially earn longer recesses than other students.

Time-out is misunderstood and mis-used at Clark as at Barnard. It is also equally ineffective. Staff members at Clark do well in ignoring slightly disturbing behaviors. They are not successful however, at ignoring more intense disruptive behaviors. Thus, they are possibly teaching the children, that staff "pays off" only for very disruptive behavior. At Clark, there is also some loss of control between morning recess and lunch. The students from this class eat lunch in the school lunchroom with the other students of the school.

A second work period occurs after lunch. Unlike the Barnard classroom, the afternoon activity seems to emphasize individual, not group, activity. Students must complete three assignments to gain afternoon recess (although they retain their checks).

An interesting and effective technique for punishing inappropriate hand raising was observed at Clark. If a student raises his hand in a disturbing manner, a staff member responds, "I see you hand, I'll be with you in three minutes.

A point missed by many of the staff members in all the classes, is that reinforcement may be delivered after many behaviors, in addition to

the target behavior, have occurred. Thus, a child may be t[illegible] a chair while receiving checkmarks for completed academic work. Tilting the chair is also reinforced in this situation.

Several suggestions resulted from observation at Clark. First, rules for behavior in the classroom should be written, posted, and frequently reviewed by the class. Secondly, staff members should specify to the child the behaviors being reinforced or punished. Third, if at all possible, some of the curriculum materials from the DILE classroom should be made accessible to other teachers in the school. (This is already occuring to some extent at Clark.) This would foster good will.

Discussion with project staff corroborated the statements of Barnard staff. The organization of and communication within the project had been getting consistently better after a poor start. This was attributed to the activity of Mr. W., who assumed the responsibility of visiting the classes and consulting with the teachers as interim project coordinator. All staff expressed gratitude regarding his activity. As at Barnard, there is no <u>active</u> parent involvement. However, one parent (D.'s mother) let it be known to project staff that there were "big changes at home" that were thought to be attributable to the project.

<u>Giddings</u>

Mr. H., Principal of Giddings School described the project as "doing fine." As a result of early interactions with Mr. N., Mr. H. stated that he had developed somewhat of a "hands off" attitude toward the class (however, he was the only administrator who read from notes he had actually written while observing the class in his school). Therefore, his "hands-off" attitude should not be misconstrued as indifference. On the contrary, he seemed very interested in the class. He stated that "as long as the school continues to benefit from the project, I'll keep my hands off." Although he had some questions regarding the "cut and dry" type of teaching in the classroom, he added, "at one time these were kids who were running all over the place, pulling the fire bells, climbing in the air ducts, going up on top of the roofs; now they are contained, happy, and learning." He particularly liked the fact that the teaching staff was ignoring disruptive behaviors of low intensity, such as chewing gum. "They don't make big things out of nothing." His major complaints were that someone representing the project had not addressed his entire staff and that more students should be admitted into the class. He said that other students in the school had asked if they could enroll in the class. He summed up his remarks by stating that this was a good class and an integral part of the school, not a stepchild. He hoped that the class would continue in his school next year.

The class at Giddings has nine students, one teacher and one aide. There no longer is an order task for the students in the morning. The students begin by working on a task card from the SRA reading materials. After completing one SRA task unit, the student may get his work record

card and his folder and may be assigned to work on the teaching machine. On the basis of each student's level, staff members assign a specified number of reading tasks to each student. The work record card informs the student how many task units he must complete. An SRA task card is worth three task units, an RFU (Reading For Understanding) task card is worth two task units, and a work sheet (prepared by the teacher) is worth one task unit. The work record card informs the student how many task units he must complete; he chooses his own materials to fulfill the number of assigned task units. After completing the assignment, students can go to one of the activity centers around the room. These activities do not cost check marks but are not available to students who have not completed their assignments. On this same basis, morning recess is available at 10:00 A.M. At 10:30 A.M., math work is done. Miss M. also supplements the math program with work sheets she has developed. Occasionally a group will be arranged for reviewing a set of mathematical operations. At 11:00 A.M., the focus returns to language arts. Group activity occurs and the more skilled students act as tutors to students with lesser skills. Such pyramidal instruction is becoming more frequently used at all levels of education (Ulrich, 1970).

Seven of the nine students eat in the school cafeteria. Cafeteria staff have told DILE staff of marked improvement in the social behaviors of the DILE Students. Students return to class at 1:00 P.M. to find on the front board a list of individualized reading assignments from the Sullivan materials. At about 1:20 P.M. a group activity occurs, such as story writing, English lesson, art lesson, or current events lesson. Afternoon recess begins at 2:00 P.M. and may continue until 3:00 P.M., dependent on the behavior of the students.

Time-out procedures are misused and ineffective.

The class at Giddings seemed to be the best of the four classes. The staff is very good at ignoring undesirable behavior and especially good at using positive reinforcements. When the students had lined up for lunch, an announcement was made that "two extra checks will be given to each student who had pushed his chair under his table and left his table straight." Bonus checks seemed to be given out at Giddings more frequently than in the other classes. For instance, a student did not retaliate against a second student who had shoved him and received "two bonus checks for not hitting back." The rewarded behavior was specified to the student. The staff programs are more of the potential reinforcers which naturally exist in the classroom. A student must pay three rows of checks if he wishes to leave the room at a time other than recess or lunch. Also, there is an opportunity for skilled students to tutor less skilled students. Tutoring is probably a reinforcing activity and a <u>natural</u> consequence for developing one's own skill. Other staff members in the school have commented on the improved social skills of the students from the DILE classroom. Mr. W., the aide in the Giddings class stated that at the beginning of the year the students "would not even play together." Now they occasionally go outside to the playground for recess, while the staff members remain inside and intermittently observe through the windows.

This social development must, in large part, be attributed to the emphasis placed by staff, on group activity in the classroom. There are more group activities at Giddings than at the other schools, and these group activities were gradually built by the staff's careful and systematic use of shaping and fading procedures.

An important aspect of the Giddings class is the more active interaction with parents. Miss M. writes a weekly letter to the parents of each student. She requires the students to read the letters as a reading exercise, and since the letters generally are good reports, students are happy to read them and parents are happy to receive them. Below is a reproduction of a typical letter.

April 6, 1970

Dear Mrs. T,

We did not send out a progress report the week before the holidays, because it was a short week. This week, the first week after the holidays, S. will be working on his behavior. He will remember to stay in his seat unless he has permission to leave, he will be quiet while he is working or while someone else is working, and he will raise his hand quietly when he needs help.

In Reading, S. is in Reading Workbook #8. By Friday he should know how to read all the words in this workbook and should be ready to start Workbook #9. This week S. will again work on punctuation, the correct way to use verbs, and he will learn ten new spelling words.

In multiplication, S. is reviewing his tables through 8 this week, and learning the tables for 9 and 10. On Wednesday and Thursday evenings he will have homework in multiplication. On these evenings, you could see that his homework is done. S. is also learning to work on IPI arithmetic booklets by himself, and to raise his hand when he needs help, instead of guessing or writing the wrong answer.

It was nice meeting you the other week. I will try to find out from the P.E. instructor about boy scouts in this area. This year, the P.E. instructor said that he did not have time to form a boy scout troop. If you would like to come for another visit, let us know when it is convenient for you and Mr. W. could arrange to be here. Then we could answer any questions which may have occurred to you.

Sincerely,

(Miss) M.

As can be seen from the above, a number of things are occuring at Giddings which are not occuring at the other schools; the students at Giddings appear to be making more and faster progress than the students in the other classes. The general impression is that this is the best class visited; students were on task possibly as much as 90% of the time; there was little disruption, and students were polite and working well. The group activities added greatly to the classroom and the staff did not hesitate to try new things in the class.

Perry

During the visit to Perry School there was no interview with the school principal. Mr. H., the principal of the school at the beginning of the school year was described as indifferent. Mr. C., with whom a short interview was held, is head teacher at Perry. He did not know much about the class and described it as "renting space" in Perry School.

There are 10 students in the class with one teacher and two aides. These ten students are bused in from all parts of the city and have been on home instruction. Some of these students ride D. C. Transit. The fact that these students go to the trouble of riding the bus for long periods in order to be in school, is itself evidence of the reinforcing properties of the class. The students in this class have not been in a formal classroom setting from between 3 to 7 years. The school day for the DILE class at Perry ends at 12:00 noon. Because of the shortened day, the routine differs somewhat from that of the other classes. Successful completion of four academic tasks is required to fill a work record card. After completion of one task, a student may sign up to work at the teaching machines. When four tasks are completed a student may go to the gymnasium.

Because students arrive individually by bus, there is no formal beginning to the class. As each student arrives, he begins an order task. Sometimes, forty-five minutes elaspe between the arrival of the first and last student. This suggests that contingencies should be arranged to reward students for arriving in school on time.

There is little group activity in the classroom, possibly because the students do not comprise a social unit outside the classroom. They are not all from one neighborhood and therefore, do not see each other out of class. This might have some effect on the development of social skills in the classroom. There is, however, emphasis on developing social skills, as is evidenced by the contingency that students can earn bonus checkmarks by sharing. "Originally the students would not share a ball together, but now they play together and share lunch."

In this particular classroom, the typing area is the most popular center. As in most of the other classes, the noise level rises during the unstructured periods prior to lunch and recess. Staff members began to issue threats to students who are becoming disruptive. There are no effective punishers. As a result of seeing the ineffectiveness of time-out, the staff has done away with it. There is no parent involvement in the activities of this class. Observation in this classroom

accentuated once again the need for a staff training program. W., a student, was working appropriately through a program on the System 80 teaching machine. After four minutes of being ignored, W. pulled out the earphone jack so that the sound track could be heard throughout the classroom. A staff member approached and reprimanded him, threatening to take away the privilege of working on the machine.

One suggestion relevant to all of the classes is that staff members should more efficiently use opportunities to model good behavior. In all classes, student initiate much of the academic process and staff members respond to students. This results in staff members occasionally waiting to respond to a raised hand. Having staff members waiting around is not a good model for students who are supposed to be working. Staff members could be involved in reviewing student work, building curriculum materials, writing letters to parents, etc., instead of waiting for questions. Not only would this allow more of the staff work to be done, but it would provide an appropriate model for the students to imitate.

Caution regarding data:

In a project such as DILE, with service as a primary function, and research as a secondary function, collection and analysis of data are often not systematically accomplished. Unfortunately, collection of data relevant to the DILE project was indeed done in a haphazard way. The following pages represent therefore, an attempt to organize a scant amount of data so that tentative conclusions regarding DILE could be reached. The reader is cautioned not to draw hard-fast conclusions from the small amount of data which was usable and is presented.

A design for evaluating some aspects of the DILE project:

Evaluation of the DILE project should take place on many levels. Many questions could be asked and more could always be added. Some of the major questions asked were:

(1) Was the project successful in containing and controlling students who in the past were uncontrollable and uncontainable?

(2) Was the project successful in developing a training program useful to its own staff and to education personnel in general?

(3) Was the project successful in helping parents deal with their children?

(4) Was the project successful in building desirable social and academic behaviors of the student? Can this progress be demonstrated? Can it be compared to the progress made by control students not on Project DILE?

What steps should have been taken to increase the probability of arriving at meaningful answers to these questions?

First, behavioral objectives should have been defined and ways to measure the behaviors established. Containment and control could be defined as some combination of attending school and frequency of punishment. A measure could be established based on the number of times a student is punished in relation to the number of sessions in school. This simply requires that systematic attendance data be kept and staff members record each time they punish a child and why. If such an index of containment and controlability could be built, comparisons could be made between DILE classes and other classes on the basis of this measure. Although no hard data were collected to investigate this question, classroom observation indicated that students were generally contained and controlled.

To evaluate a training program for staff would require defining the objectives of such a training course so that measures could be made of staff effectiveness. Measures could include appropriate and inappropriate use of reinforcement (and/or punishment). Such evaluation would require observers to gather data regarding teacher-student interactions. The evaluation would also focus on how staff members utilize and program curriculum materials. One of the ways to look at staff utilization of curriculum materials might be to investigate individualizing in the classroom. Many of the materials utilized in the DILE classrooms are built to be used in individualized programs, for example, the Sullivan Reading Program. Each book has 96 pages and could be arbitrarily divided into four subunits of 24 pages. An investigation of teachers's appropriate use of the books would observe the progress of each student through the books. A table might result which looks as follows.

Proposed Table to Reflect Individualization
Using Sullivan Reading Materials

SULLIVAN UNITS (24 pages)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
11									1						
10															
9							1	1	2						
8						2	2	1	2						
7					1	2	1	2	2						
6				1	1		2	3	1						
5				1	2	1	2	1	1						
4			1	3	3	3	1	1							
3		1	4	2	1	1									
2		6	3	2	1										
1	9	2	1												

SCHOOL DAYS

A FIRST YEAR DESIGN FOR EVALUATION

I	II	III	IV
a. Pre-test (CAT) DILE	Questionnaire for parents --- Baseline of teacher performance --- Pre-tests for students on the specific materials used. --- Video taping in classrooms.	Look at rates of Behavior change regarding: 1) Child behaviors at home. 2) Student progress in classroom. a) progress checks of academic materials b) social behaviors 3) Teachers use of a) curriculum materials b) reinforcement techniques --- Video taping in classrooms.	Post-test CAT Questionnaire for parents Final post-checks and total progress of student Final evaluation of teacher performance Video taping in classroom.
a. Pre-test (CAT) A class of problem children in a program other than DILE CONTROL 1	SAME	SAME	SAME
a. Pre-test (CAT) A regular class in a regular school setting. CONTROL 2	SAME	SAME	SAME

In the above table, the numbers in the squares represent the number of students that are working on or have completed a unit (24 pages) on a particular school day. At the end of DAY 1, nine students were working on, or had completed the first Sullivan unit. To the extent that there is spread over days, there is indication that individualization is occuring since different students would be working in different units of the books.

This is one example of how data might have been recorded to investigate one aspect of staff effectiveness (use of individualized materials). Unfortunately, there was no training program to increase staff effectiveness in curriculum (antecedent) management, or reinforcement (consequent) procedures.

In order to evaluate the project's effects on parents, it most likely would be necessary to accept survey and questionnaire data. A problem checklist should be developed and given to parents at the beginning of a parent training program. This checklist should include space for parents to write descriptions of problems regarding their children at home. The same checklist would be given out to parents during the course of the academic year as well as at the end of the academic year, thereby providing baseline, process, and post-treatment data to evaluate the effects of a parent training program. Unfortunately, there was no serious parent program as part of the project.

On the following page is a design to answer some of the basic questions in the first year of a project such as DILE. This design will allow for evaluation of: 1) A parent training program, 2) A teacher training program, 3) The overall system in the DILE classrooms.

The use of video tape allows for outside experts to devise their own rating systems to evaluate what is happening in the classrooms. The following design for evaluation is designed to answer the basic questions regarding a project like DILE. Subsequent evaluation designs would be built to determine the relevant variables determining the effectiveness of the program.

Some attempts were made to collect data relevant to answering questions regarding student performance. Unfortunately, these data were not collected in a systematic manner. In order to have arrived at conclusive evidence regarding the effects of DILE on its students, several sources of data should have been used. Had a control group of students been identified, standardized achievement tests (like the California Achievement Test) could have been administered to both groups. As it was, pretests were administered to some of the DILE students. Within the DILE classrooms, data should have been collected which shows rate and amount (number of pages, unit, etc./ time period) of change with regard to academic and social behaviors. Haphazard attempts were made to gather these data and partially successful efforts were made to make sense of them. The data which were available to this evaluator are presented below.

Data from Barnard, Clark, Perry and Giddings Schools.

Data collected in these classrooms derives from five primary sources: (1) Pre-treatment scores from standardized achievement tests (CAT and

Metropolitan); (2) Pre-tests, placement tests, and post-tests from the IPI math materials; (3) Number of books completed in Sullivan reading program; (4) Number of units completed of Borg-Warner System 80 programs; and (5) Weekly achievement and academic progress reports from staff. Data from daily work-record cards were not usable. Unfortunately, the evaluator was not successful in equating work on the above mentioned curriculum materials with grade level. Therefore, comparisons between the pre-treatment test scores (CAT) and the terminal curriculum level scores of the students could not be done. Post-treatment scores on the CAT were not available to this writer. (There is a question as to whether this post-test was administered). Even the above data were not available on <u>all</u> students. This unfortunate state of affairs precluded the random selection of students for whom data are presented. Students were selected because there were data available on them. Where scores were unavailable, slash marks appear in the tables. Where complete sources of data were unavailable, the data are lacking.

The data are to be presented by school. A table shows pre-test achievement test scores in reading and arithmetic for the students selected. There are several students on whom these scores were unavailable. Following the pre-test score tables is a graph showing the number of days required to complete each level of the IPI Mathematic Program and a second graph showing the overall rate of work of each student with regard to the IPI materials. As was stated earlier, it is not known how the IPI levels relate to grade levels and pre and post comparisons are not possible.

Reading data consist of a statement for each student as to the number of Sullivan and System 80 units completed. No dates were presented with the raw data and therefore statements of rate of work are not included. Subjective data in the form of weekly teacher evaluations are presented to the extent that they were made available to this evaluator. These data, in actuality, do not contribute greatly to the overall evaluation of the project, and are included mostly to show the reader what kind of weekly data are collected by the staff.

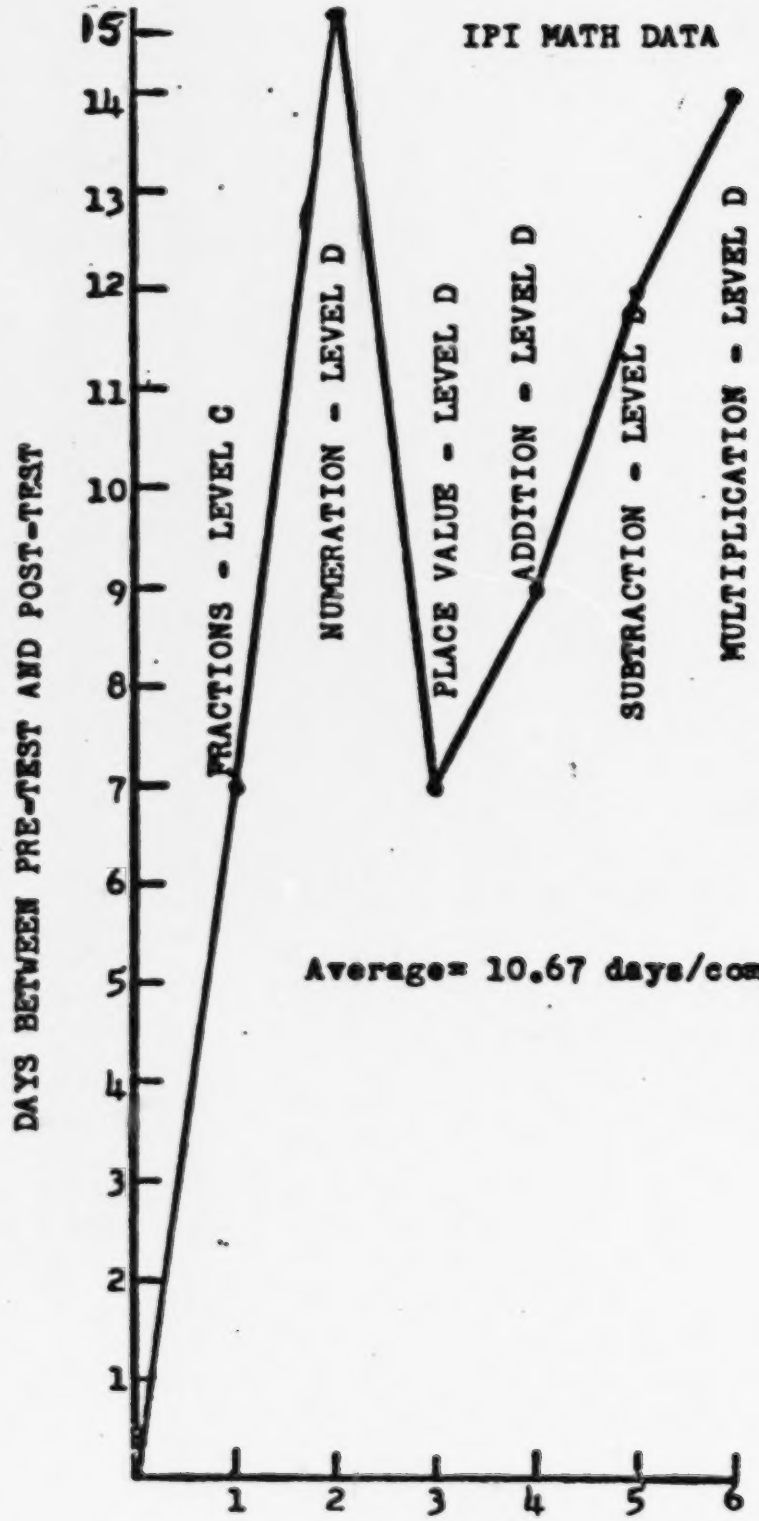
The data do not lead to any conclusions; they do not verify hypotheses; in essence, they are not very useful. For the sake of drawing conclusions and offering suggestions, the data gathered in the actual observations led to two <u>major</u> conclusions. One, students were contained, controlled, and interacting with educational materials in an academic setting; two, the staff is in need of training. These major conclusions seem to be supported by the "harder" data following. What has become obvious however, is that data collection, processing, and analysis, be part of the training course for staff.

BARNARD SCHOOL

CALIFORNIA AND METROPOLITAN ACHIEVEMENT PRE-TEST SCORES

CALIFORNIA ACHIEVEMENT TEST - 11/2/69

READING	V.E. 2/13/60 GRADE 4 SCORE	GRADE	E.B. 4/19/59 GRADE 4 SCORE	GRADE	S.J. 6/26/59 NO GRADE SCORE	GRADE
A. WORD RECOGNITION	14	2.7	14	2.7	12	2.2
B. OPPOSITES	15	3.3	13	3.1	11	2.9
TOTAL READING VOCABULARY	29	3.1	27	2.9	23	2.5
C. FOLLOWING DIRECTIONS	13	3.9	8	2.9	1	0
D. REFERENCE SKILLS	7	3.9	5	3.4	2	1.6
E. INTERPRETATION	12	3.2	7	2.6	5	2.2
TOTAL READING COMPREHENSION	32	3.5	20	2.7	8	1.8
TOTAL READING	61	3.4	47	2.8	31	2.1
METROPOLITAN READING SCORE	(6/69	3	(5/68)	2.3	(5/68)	2.3
ARITHMETIC						
A. ADDITION	47	3.7	42	3.2	36	2.8
B. SUBTRACTION	37	3.4	23	2.5	27	2.8
C. MULTIPLICATION	24	3.8	/	/	/	/
TOTAL ARITHMETIC	108	3.6	/	/	/	/
METROPOLITAN ARITHMETIC SCORE	(6/69)	3+	(5/68)	2.4	(2/68)	2.5

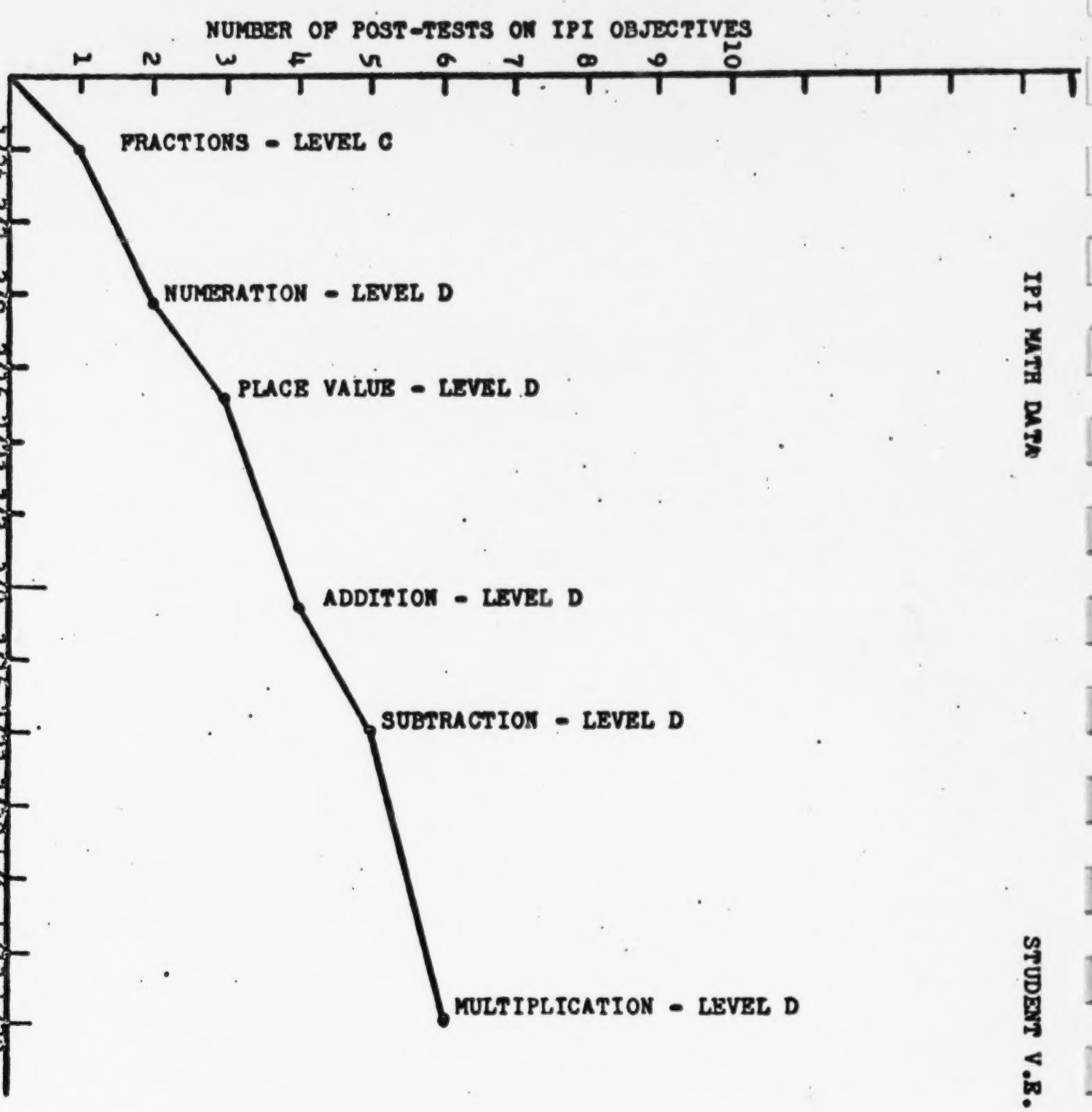


STUDENT V.E.

Ten Sullivan Books Completed.

Fifteen System-80 Levels Completed.

Average= 10.67 days/completion of IPI levels.


NUMBER OF POST-TESTS ON IPI OBJECTIVES
1
2
3
4
5
6
7
8
9
10
IPI MATH DATA
FRACTIONS - LEVEL C
NUMERATION - LEVEL D
PLACE VALUE - LEVEL D
ADDITION - LEVEL D
SUBTRACTION - LEVEL D
MULTIPLICATION - LEVEL D
SCHOOL DAYS
1/26
2/2
2/9
2/16
2/23
3/2
3/9
3/16
3/23
3/30
4/6
4/13
4/20
STUDENT V.B.

WEEKLY ACADEMIC ASSIGNMENT SHEET - V.E.

3/16 - 3/20

SUBJECT	ASSIGNMENT	PROGRESS
READING	Read orally p. 54-74 and do corresponding workbook exercises. -Long and short "oo" sound -Reading comprehension exercises. Word recognition Test	Read only through p. 66. Needs additional practice. Excellent comprehension. 100% accuracy.
SULLIVAN	Book 8 to p. 60 Read 8A and 8B books silently, and 1 orally with good comprehension and word attack skills.	Completed.
I.P.I.	Telling time. C.E.T. Review	Continued work needed.
LANGUAGE	Be able to write simple sentences with good punctuation and "reasonable" accuracy in spelling. Dictionary Skills- Be able to use dictionary effectively - Be able to use guide words on page.	Good punctuation skills but needs more practice in spelling. (She also leaves out words -doesn't proof read) Continued work needed.

3/23 - 3/26

READING	Beyond Treasure Valley Read pp. 68-89 and on corresponding workbook exercises pp.23-29. Word recognition test. - Words with -ed. -Phonics-alphabetizing	The vocabulary in this book is not challenging enough. We switched to Along Friendly Roads level 3.2 and read p. 6-39. The book clerk was out, so V.E. did not have a reading workbook.
SULLIVAN	Book 8 p.60 - the end.	Completed.
ARITHMETIC	Telling Time. Be able to read to the minute.	Continued work needed. Confusion when minute hand is between numbers.
LANGUAGE	Write a simple story using capitals, periods and organizing content. Alphabetize words with same initial letter.	Improvement seen. Good language skills but poor organization. 100% accuarate.
HANDWRITING	Improve size and slant of letters.	Improved, but not much.

WEEKLY ACADEMIC ASSIGNMENT SHEET - V.E.

4/6 - 4/10

SUBJECT	ASSIGNMENT	PROGRESS
LANGUAGE	Be able to alphabetize words with the same two or three beginning letters - ex. (an, and, another) Review dictionary skills - guide words, accent, syllabication	98% accurate Confused by "little" words. 90% accurate.
ARITHMETIC	Telling Time - Review Be able to read clock to the minute. I.P.I. Multiplication D	Continued work needed, but at a later date. (High interest is lagging.
SULLIVAN	Review words in Book 8.	80% accuracy. (Knows words in context).
PHONOVISUAL	Review short vowel sounds. Emphasis on ŏ.	

4/13 - 4/17

LANGUAGE	Be able to match antonyms, synonyms, and rhymes, so they can be used in written work.	100% accuracy-antonyms 90% accuracy-synonyms 100% accuracy-rhymes
SULLIVAN	Orally Bk. 8 with comprehension. Workbook 9 p. 1-60.	Completed.
ARITHMETIC	Review multiplication facts 0-5,10. I.P.I. MULT. D. Review regrouping in subtraction with hundreds, tens, ones.	Accurate but need speed. Continued work needed. (Can regroup well using tens and ones-but not hundreds)
PHONOVISUAL	Review short vowel sounds. Reading and spelling.	Confusion between o and w, in spelling.

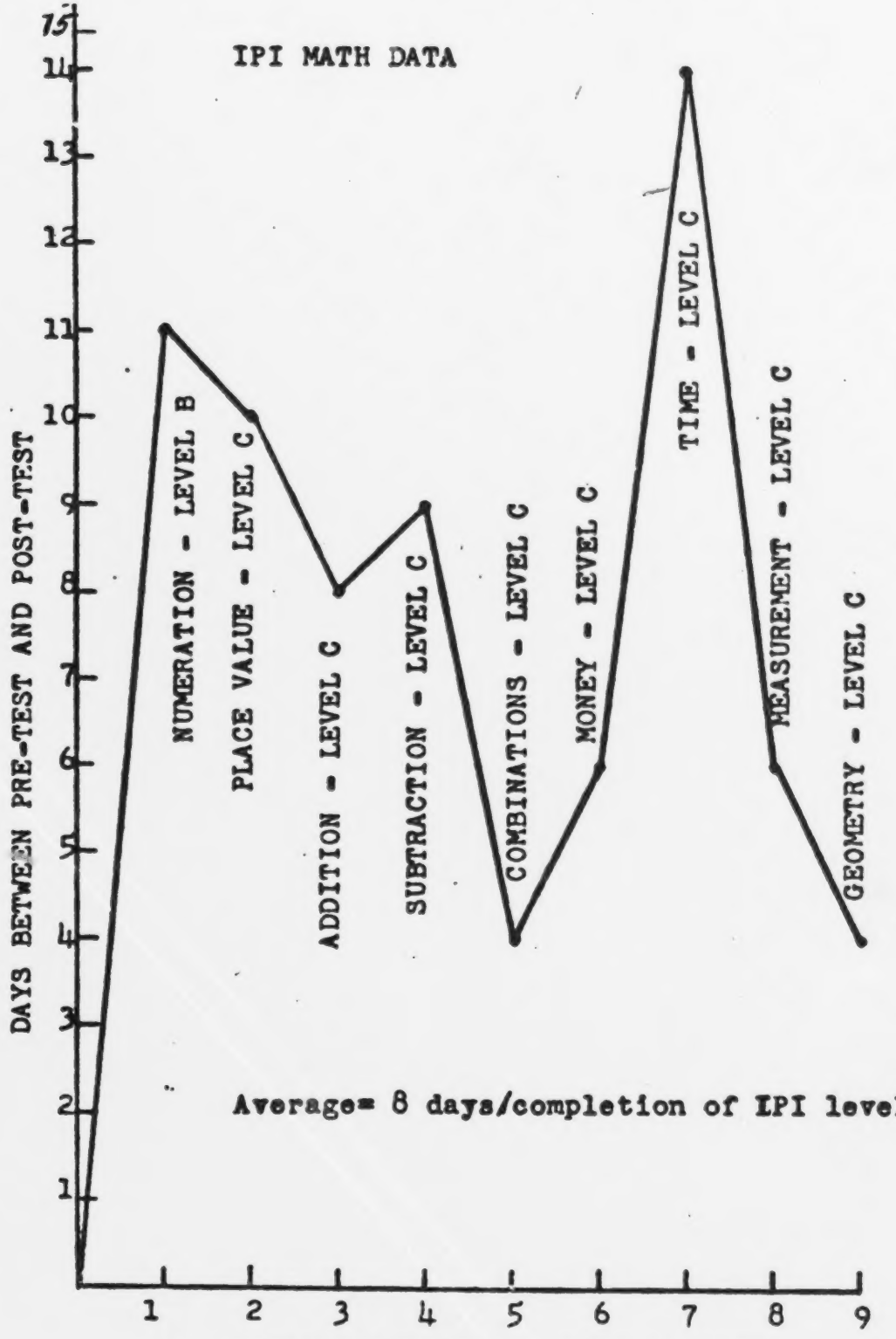
WEEKLY CRITICAL BEHAVIORAL OBJECTIVES

STUDENT V.E.

SOCIAL BEHAVIORS OF GENERAL CONCERN	COMMENTS
WEEK #1 3/9 a) Raising hand b) Staying in seat c) Working on task d) Remaining quiet	Now completes all work. Now has more self-control.
WEEK #2 3/16 SOCIAL BEHAVIORS OF UNIQUE CONCERN TO V.E. a) sitting straight	Behavior has become more consistent. Some defiance led to a time-out.
WEEK #3 4/15 No information available.	Excellent in A.M. Sits at chair well. Unladylike on the playground. Calls out frequently.

IPI MATH DATA

STUDENT E.B.

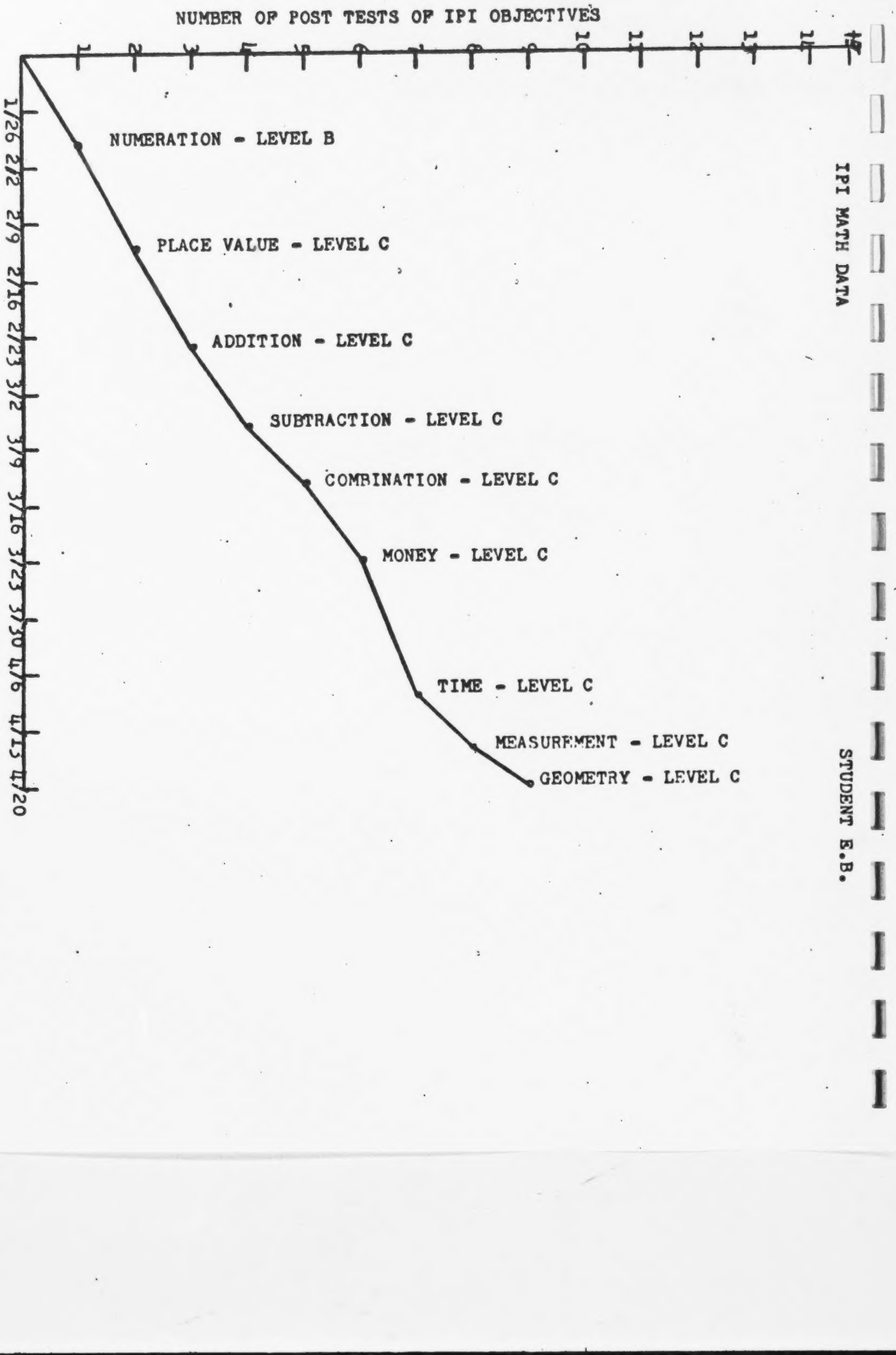


Average= 8 days/completion of IPI level.

Nine Sullivan Books Completed.

Fifteen System-80 levels Completed.

GUE


NUMBER OF POST TESTS OF IPI OBJECTIVES
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
IPI MATH DATA
1/26
2/2
2/9
2/16
2/23
3/2
3/9
3/16
3/23
3/30
4/6
4/13
4/20
SCHOOL DAYS
NUMERATION - LEVEL B
PLACE VALUE - LEVEL C
ADDITION - LEVEL C
SUBTRACTION - LEVEL C
COMBINATION - LEVEL C
MONEY - LEVEL C
TIME - LEVEL C
MEASUREMENT - LEVEL C
GEOMETRY - LEVEL C
STUDENT E.B.

WEEKLY ACADEMIC ASSIGNMENT SHEET - E.B.

2/16 - 2/20

SUBJECT	ASSIGNMENT	PROGRESS
READING	Read orally pp. 60-84 in Down Singing River - to provide practice in reading with clarity and understanding.	Needs practice in word attack skills and in reading accurately aloud; demonstrates good reading comprehension although he neglects details.
	Workbook exercises p. 23-34 - to classify words according to meaning; to recognize opposites; to identify long and short sounds of "a"; to recognize the main idea of a paragraph.	
ARITHMETIC	To use number line to be able to use symbols > and < (greater than, less than) when comparing numbers.	100% accuracy on test.
LANGUAGE	To correctly identify root words and add proper suffixes in oral and written language. (-s, -ed, -ing)	Can add to root words that do not require changes when adding suffixes.
	Use to, two, and too (as also) correctly in written work.	100% accuracy on test.
SOCIAL STUDIES	Use research to discover how American Indians obtained food.	Culminated by trip to Indian Hall at the Musuem of Natural History.
SCIENCE	Determine the needs of all living things through the planting of seeds.	Continuing experimenting-watching our seeds grow.
PHONOVISUAL SPELLING	To use phono. chart (consonant) as an aid to sounding out words. Emphasis on j - g, z - s.	Continued work needed on j and g.

2/24 - 2/27

READING	Read orally in Down Singing River p.78-90 and do corresponding workbook exercises.	Demonstrates good reading comprehension.
	- Reading comprehension	
	-Application of vowel rule (final e with i.)	Shows fair knowledge of this rule.
	-Phonics word recognition.	Good.
SULLIVAN	Work in Book 2 to page 72.	Only did up to p. 48.
SCIENCE	To be able to diagram and describe the individual parts of a lima bean.	Mastered.
HANDWRITING	Be able to connect letters with ease, and not lift pencil (as in printing)	Continued work needed.

108

WEEKLY ACADEMIC ASSIGNMENT SHEET - E.B.

2/24 - 2/27

SUBJECT	ASSIGNMENT	PROGRESS
SOCIAL STUDIES	Use research to find out how Indians got their food.	no comment.
PHONOVISUAL	Be able to spell words with blends in initial position.	Continued work needed. E.B. knows the initial consonant but substitutes end consonant in second position. ex. green-gneen.
	Distinguish g from j in initial position.	90% mastery.
ARITHMETIC	Be able to write and read numbers after 100 - place value - (1001 is used for 101)	100% mastery. Can read and write the numbers - with no understanding.
	Be able to memorize simple addition combinations, so they can be written with greater speed and accuracy.	Continued work needed. Accurate but too slow.
LANGUAGE	Be able to use saw and seen correctly in oral and written work.	100% accurate.
	To use periods or question marks accurately in written work.	Continued work needed.
	To capitalize names in written work.	Continued work needed.

3/6 - 3/10

READING	Read p.124-142 and do corresponding workbook exercises p.50-58.	100% accuracy in finding opposites; very poor at following directions.
	-Reading comprehension - opposites & following directions. -suffix "y" usage -Final consonants - recognition exercise	100% accuracy. E.B. completed workbook exercises p.50-53, however he read pp 144-150 in his reading book. We have been concentrating on reading independently with comprehension. After he has read, he relates the story to me. He has done this quite accurately.

WEEKLY ACADEMIC ASSIGNMENT SHEET - E.B.

3/16 - 3/20

SUBJECT	ASSIGNMENT	PROGRESS
SULLIVAN	Complete Book 3 Read one reader orally with good comprehension.	Completed
ARITHMETIC I.P.I. (Comb.C)	Place Value Be able to read and write numbers to 400 and list by hundreds, tens, ones. Be able to do equal and unequal equations (= and ≠)	80% accuracy. Needs continued practice on facts.
PHONOVISUAL	Be able to spell words with wh in initial position. (Differentiate between w & wh)	95% accuracy.
LANGUAGE	Be able to write sentences with proper capitalization - beginning, names, holidays, places.	Continued work needed.

3/23 - 3/26

SULLIVAN	Book 4 pg. 1-48 (Test 2)	Completed only to p.24.
ARITHMETIC	Be able to do equal and unequal equations. Practice addition and subtraction facts with greater speed. I.P.I. Time C. pretest.	E.B. was suspended on 3/25. He did not come to school 3/26, so this work was not completed.
LANGUAGE	Continued work on capitalization in written work.	
PHONOVISUAL	Writing words with correct consonant in final position.	

4/6 - 4/10

SULLIVAN	Book 4 p. 24 - 60.	Did to page 66.
ARITHMETIC	Introduce multiplication and division. Teach 2,5,10 tables. I.P.I. Time C Continued work on regrouping - especially in subtraction.	Understands concept-but works very slowly. (Makes lines on paper to figure out answers). Completed-began Measurement C - To be continued.
LANGUAGE	Be able to use capitals in written work - beg. of sentences, names, places.	Knows when to use capitals - but "forgets."
PHONOVISUAL	Review final consonant sounds and blends.	90% accurate.

WEEKLY ACADEMIC ASSIGNMENT SHEET - E.B.

4/13 - 4/17

SUBJECT	ASSIGNMENT	PROGRESS
LANGUAGE	Be able to match antonyms, synonyms and rhymes, so they can be used in written work.	100% accuracy.
SULLIVAN	Book 4 p.66 to end Read "A Job on a Jet" orally with comprehension. Book 5 to page 12.	Did to p.2, Book 5.
PHONOVISUAL	Review blends. Be able to read and spell words with short and long a.	80% accuracy.
ARITHMETIC	Addition and subtraction of tens and ones - regrouping. Multiplication and division using 2,3,4,5,6,10.	Continued help needed. Accurate but slow. Needs "to figure out" each example. Could not teach 4 & 6 tables.

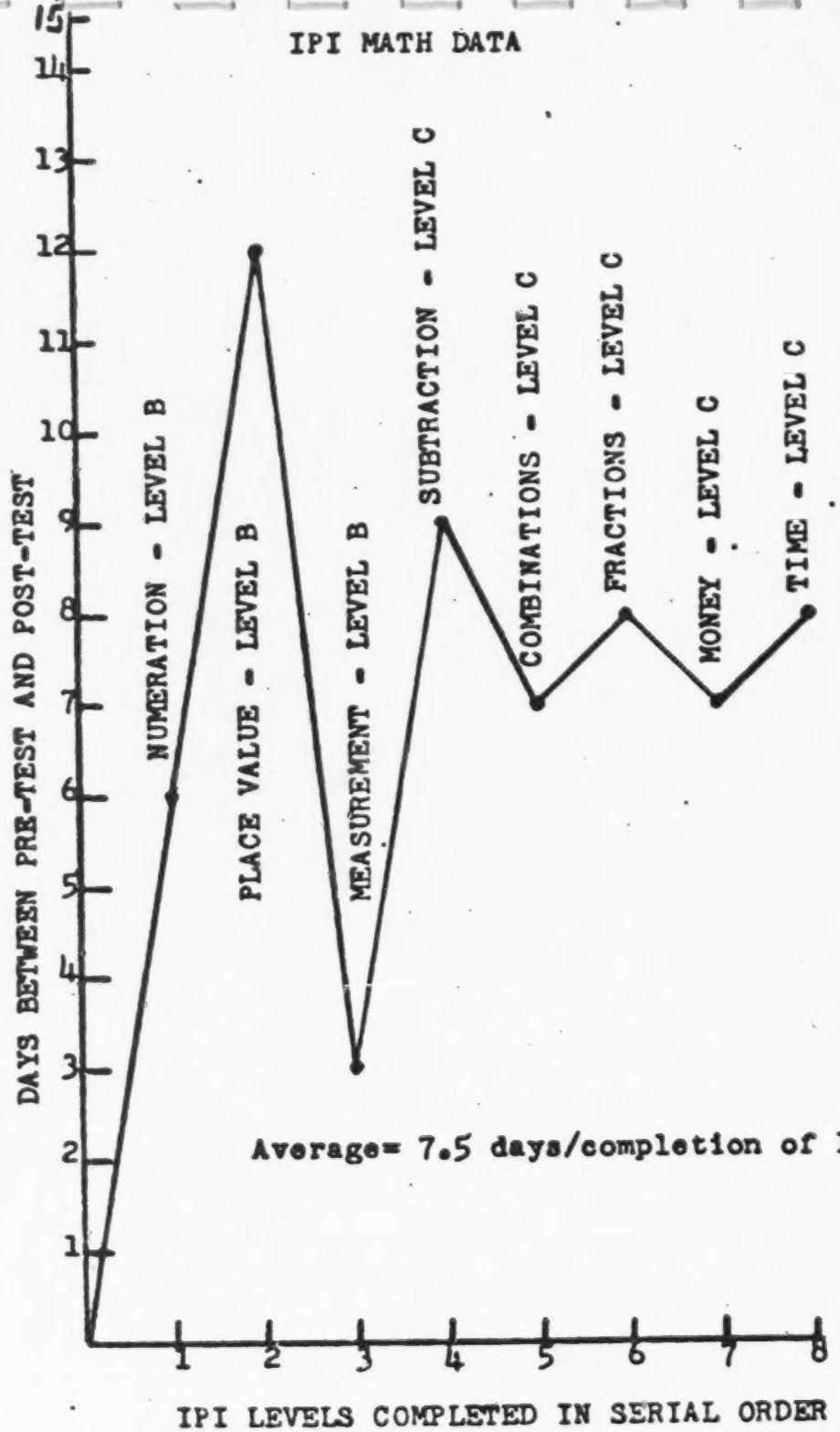
WEEKLY CRITICAL BEHAVIORAL OBJECTIVES

STUDENT E.B.

SOCIAL BEHAVIORS OF GENERAL CONCERN		COMMENTS
WEEK #1 2/16	a) Raising hand b) Staying in seat c) Working on task d) Remaining quiet SOCIAL BEHAVIORS OF UNIQUE CONCERN TO E.B. a) Sitting straight	He is trying to control his behavior. He did his work well, stayed at his work stations, and was cooperative with all the staff members.
WEEK #2 2/24	Same list of five social behaviors.	E., in constant trouble this week.
WEEK #3 4/15	No information available.	E. was sent home on 4/13. He is expert in getting others to react to him. We have been partially successful in extinguishing his attention getting devices.

IPI MATH DATA

STUDENT S.J.



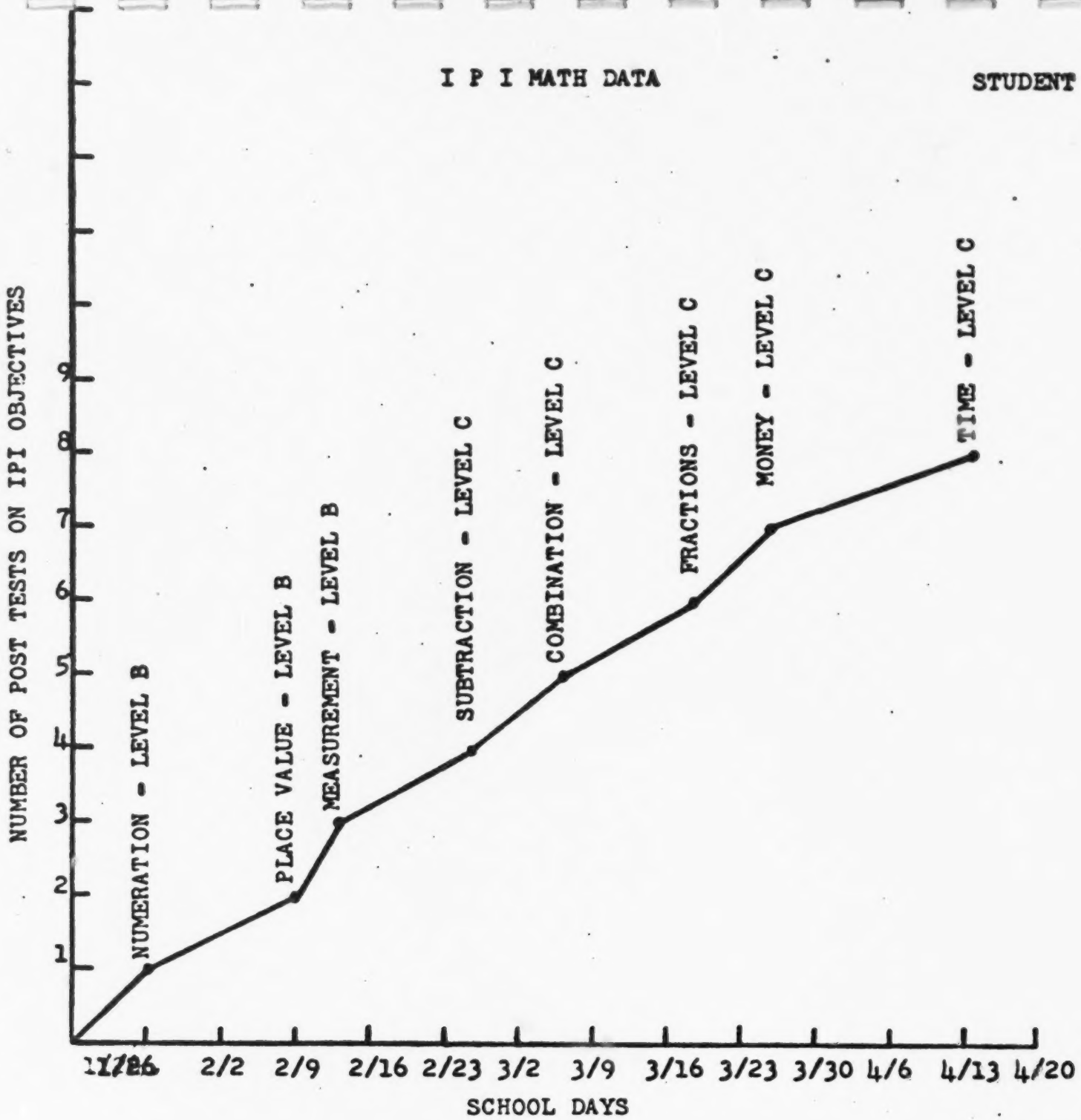
Six Sullivan books completed.

Six System 80 Levels completed.

Average= 7.5 days/completion of IPI level.

I P I MATH DATA

STUDENT S.J.



WEEKLY ACADEMIC ASSIGNMENT SHEET - S.J.

2/16-2/20

SUBJECT	ASSIGNMENT	PROGRESS
SOCIAL STUDIES	Use research to discover how American Indians obtained food.	Culminated by trip to Indian Hall at the Museum of Natural History.
SCIENCE	Determine the needs of all living things through the planting of seeds.	Continual experimenting- "watching our seeds grow".
ARITHMETIC	To be able to apply knowledge of place value to writing numbers 100 to 200.	100% mastery.
LANGUAGE	To use to, two, and too (as also) correctly in written work.	85% mastery.
	To correctly identify root words and add proper suffixes in oral and written language.	Can add to root words that do not require changes when adding suffixes.
PHONOVISUAL SPELLING	Use phono. chart and knowledge of consonants to spell words beginning with blends. Emphasis on those with b ,br,bl.	Continued reenforcement needed.
READING	Read p.36-66 orally Down Singing River, to improve clarity and comprehension.	Needs help in pronouncing endings of words.
	Workbook exercises p.10-23 -to distinguish fact from fantasy. -to recognize details of a short story. -to recognize main ideas. -to recognize initial consonant sounds. -recognizing long and short sounds of "i" and "e".	Needs additional help in recognizing long and short sounds of "e", in all other areas shows significant progress, especially that of reading comprehension.

WEEKLY ACADEMIC ASSIGNMENT SHEET - S.J.

2/17/ - 2/22

SUBJECT	ASSIGNMENT	PROGRESS
READING	Read orally Down Singing River p. 66-84, and do corresponding workbook exercises.	Enunciation is slightly improved.
	-Practice in recognizing details in paragraphs.	Needs additional help in recognizing the short sound of "a".
	-Practice in recognizing the vowel rule (final e with a).	
	-Recognizing opposites.	Needs additional help in recognizing opposites.

2/24 - 2/27

Phonovisual	Be able to read and spell words containing blends br and bl in initial position.	95% mastery
	Be able to read and spell one syllable words using long vowel sound, with an e at the end.	Continued work needed.
LANGUAGE	Be able to use saw and seen correctly in oral and written language.	85% mastery
	To remember to use period or question mark at the end of a sentence.	Continued work needed.
HANDWRITING	Use cursive writing with ease- stop printing!	Little progress.
SULLIVAN	Complete first half of Book 2.	Only worked to p. 34.
SCIENCE	To be able to diagram and describe the individual parts of a lima bean.	Mastered.
SOCIAL STUDIES	Use research to find out how Indians got their food.	Visit to Indian Hall at the Museum. - Library.
ARITHMETIC	To be able to memorize simple addition combinations so that can be written with greater speed and accuracy.	Continued work needed - accurate but slow.

WEEKLY ACADEMIC ASSIGNMENT SHEET - S.J.

3/6 - 3/10

SUBJECT	ASSIGNMENT	PROGRESS
READING	Read pp.105 - 124 and do corresponding workbook exercises pp.42-49. -Vowel rule - long ee -Comprehension-following directions. Contractions, short o sound. Comprehension.	Needs some help in recognizing this sound. Has difficulty understanding directions, but once he understands fully; he follows directions quite accurately. S.J. did not do exercises on p. 44-47. S.J. needs a great deal of help in locating information. He does not relate what he has read to questions asked. We spent some time reading independently; he can relate what he has read, but has difficulty in answering questions.

3/16-3/20

SULLIVAN	Complete Book 2	Incomplete.
LANGUAGE	Be able to write sentences with proper capitalization-beginning, names, holidays, places.	80% accurate.
HANDWRITING	Be able to read cursive writing. Practice writing lower case letters with emphasis on o,a,d.	Handwriting improving. Still has difficulty reading cursive writing.
PHONOVISUAL	Review blends. Be able to read and spell words with ee.	95% accuracy in written work. 90% accurate reading.
I.P.I.	Complete Practions C	no comment

3/23-3/26

SULLIVAN	Complete Book 2 Read one reader orally with good comprehension.	Completed.
LANGUAGE	Review capitalization and proper use of question mark or period in written work.	95% accurate.
PHONOVISUAL	Be able to read and spell words of one syllable using short vowel sounds.	80% accurate spelling words, but only 70% accurate reading them.

WEEKLY ACADEMIC ASSIGNMENT SHEET - S.J.

3/23 - 3/26

SUBJECT	ASSIGNMENT	PROGRESS
ARITHMETIC	Be able to regroup in addition tens and ones. I.P.I. Money C	Forgets! Still adds Forgets! 34 28 512 Forgets! until reminded. then does well.

4/6 - 4/10

SULLIVAN	Book 3 pg. 1-36.	Completed
LANGUAGE	Be able to recognize homonyms and to use them correctly in written work.	90% accurate.
PHONOVISUAL	Continued work on short vowel sounds - emphasis on reading-even more than spelling.	Progress noted. (Will return to short vowels at a later date. Perhaps in conjunction with long vowels.)
ARITHMETIC I.P.I.	Regrouping in addition. Time C	Still forgets to regroup.

4/13 - 4/17

LANGUAGE	Be able to recognize antonyms, synonyms and shymes, so they can be used in written work.	100% accurate.
SULLIVAN	Book 3 p.37 to the end.	Did to p. 85.
I.P.I.	Franctions C.E.T. Rev. Time C	Completed.
ARITHMETIC	Addition and subtraction using regrouping.	Continued work needed. Still forgets to regroup. Help! Put off sub. till next week.
PHONOVISUAL	Long vowel sounds.	Improvement, but still needs much teacher guidance.

WEEKLY CRITICAL BEHAVIORAL OBJECTIVES

STUDENT S.J.

SOCIAL BEHAVIORS OF GENERAL CONCERN	COMMENTS
WEEK #1 2/16 a) Raising hand b) Staying in seat c) Working on task d) Remaining quiet SOCIAL BEHAVIORS OF UNIQUE CONCERN TO S.J. a) Sitting straight b) Working quietly	None
WEEK #2 2/24 ADDITIONAL SOCIAL BEHAVIORS OF UNIQUE CONCERN. a) Aggression (not clearly defined) b) Being immature (not clearly defined)	"S. has had a terrible week. His immaturity has been getting worse. He almost requires a 1:1 relationship at this point to get anything out of him at all."
WEEK #3 3/2 Same list of eight social behaviors.	"Great improvement. Earning checkmarks for critical behaviors."
WEEK #4 3/9 Sitting straight removed from list.	"Sitting straight is no longer a critical behavior."
WEEK #5 3/16 Same list of seven behaviors.	"Sitting straight is off the list. Maturity has increased. There is a lower frequency of bizarre grimaces and sounds. He is no longer easily distracted."
WEEK #6 4/15 Sitting straight returned to list as non-critical behavior.	"He is more concerned about himself. He is less indifferent. He has more pride (from deserved rewards). He wears new clothes now. He no longer wears hand me downs. He is concerned with good behaviors of others.

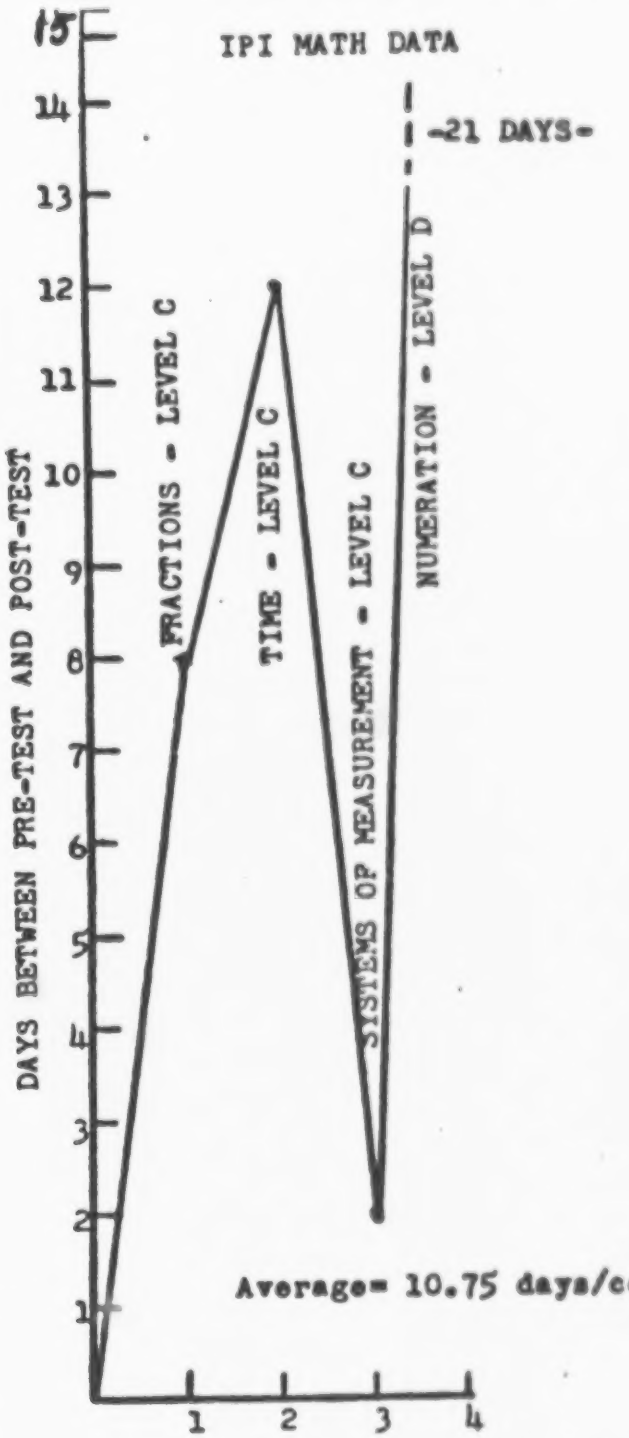
CLARK SCHOOL

CALIFORNIA AND METROPOLITAN ACHIEVEMENT PRE-TEST SCORES

CALIFORNIA ACHIEVEMENT TEST - 10/30/69

READING	V.W. 2/19/58 GRADE 5 SCORE	GRADE	O.G. 2/17/59 GRADE 4 SCORE	GRADE
A. WORD RECOGNITION	13	2.4	16	3.2
B. OPPOSITES	16	3.5	20	4.0
TOTAL READING VOCABULARY	29	3.1	36	3.8
C. FOLLOWING DIRECTIONS	10	3.3	8	2.9
D. REFERENCE SKILLS	6	3.6	6	3.6
E. INTERPRETATION	14	3.4	13	3.3
TOTAL READING COMPREHENSION	30	3.4	27	3.3
TOTAL READING	59	3.3	63	3.5
METROPOLITAN READING SCORE	(4/67)	2.0	(6/69)	3.0
ARITHMETIC				
A. ADDITION	50	4.9	49	4.3
B. SUBTRACTION	49	4.6	48	4.3
C. MULTIPLICATION	43	4.6	/	/
TOTAL ARITHMETIC	142	4.9	/	/
METROPOLITAN ARITHMETIC SCORE	/	/	(6/69)	3

STUDENT V.W.



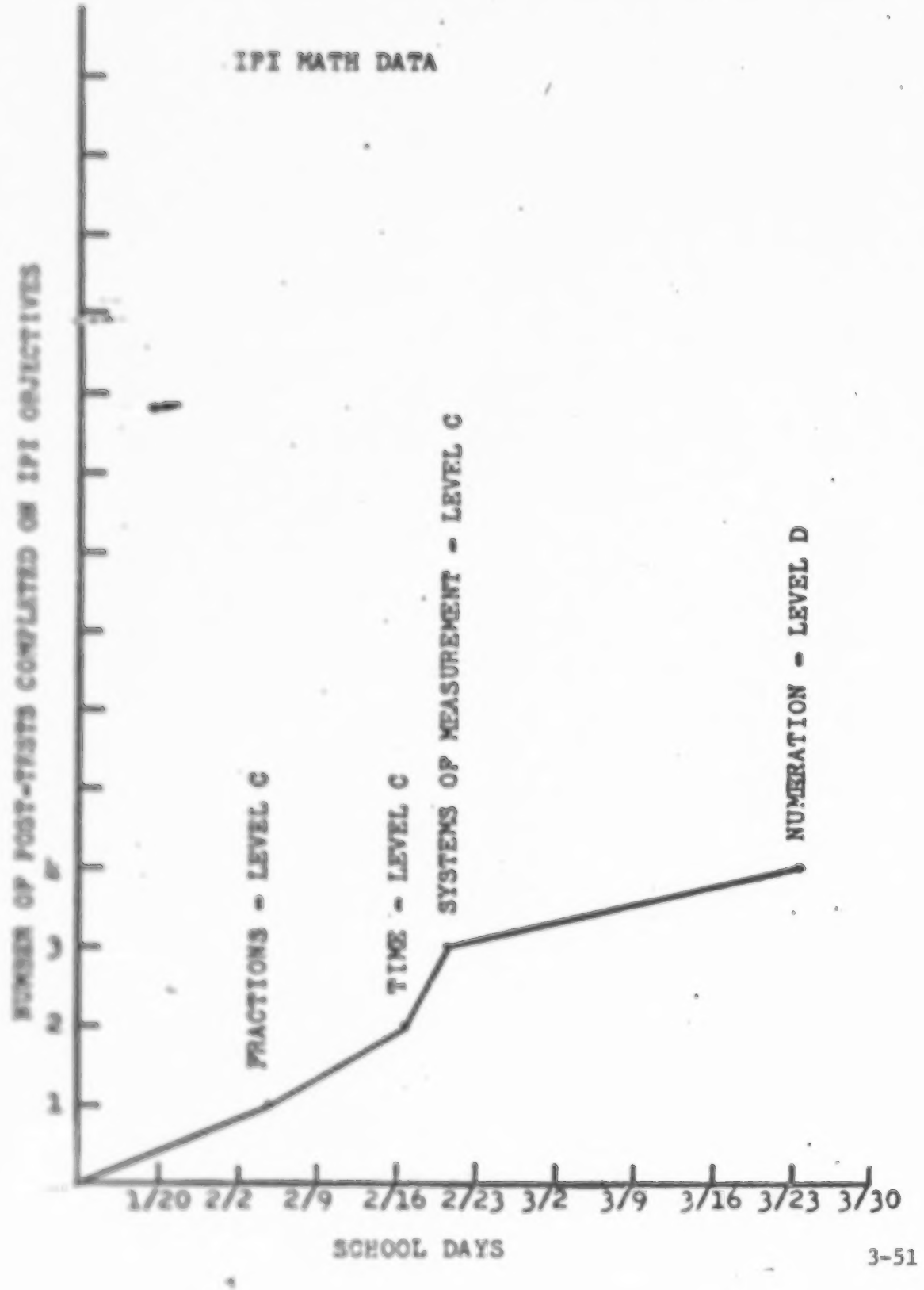
Twenty-one Sullivan Books completed.

Six System 80 Levels completed.

Average= 10.75 days/completion of IPI Level.

IPI MATH DATA

STUDENT V.W.



WEEKLY CRITICAL BEHAVIOR OBJECTIVES

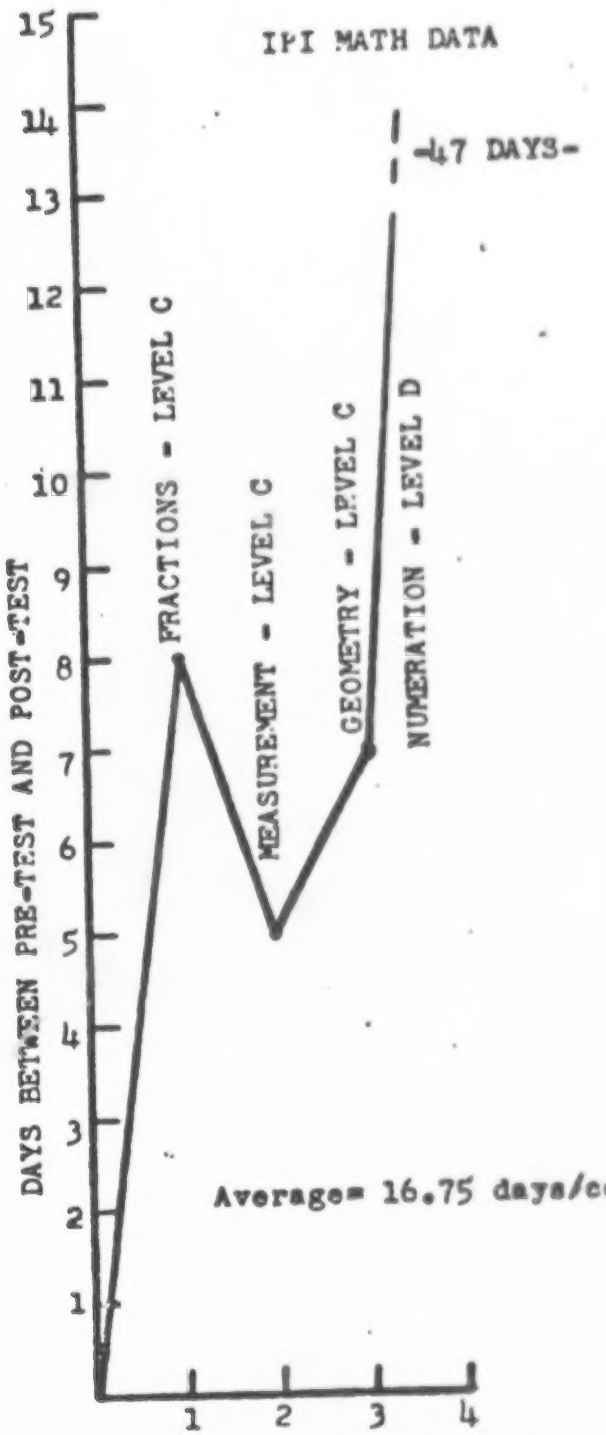
STUDENT V.W.

SOCIAL BEHAVIORS OF GENERAL CONCERN	COMMENTS
WEEKS #1 and 2 (no dates given) a) Raising hand. b) Staying in seat. c) Working on task. d) Remaining quiet. SOCIAL BEHAVIOR OF UNIQUE CONCERN TO V.W. a) Being respectful.	Talking back is a problem.
WEEK #3 ADDITIONAL SOCIAL BEHAVIORS OF UNIQUE CONCERN a) Being neat.	Still talking back. Working style has improved.
WEEK #4 "Being neat" removed from list.	Being respectful still on list. Excellent on being neat and working independently.

STUDENT O.S.

Twenty-one Sullivan Books completed.

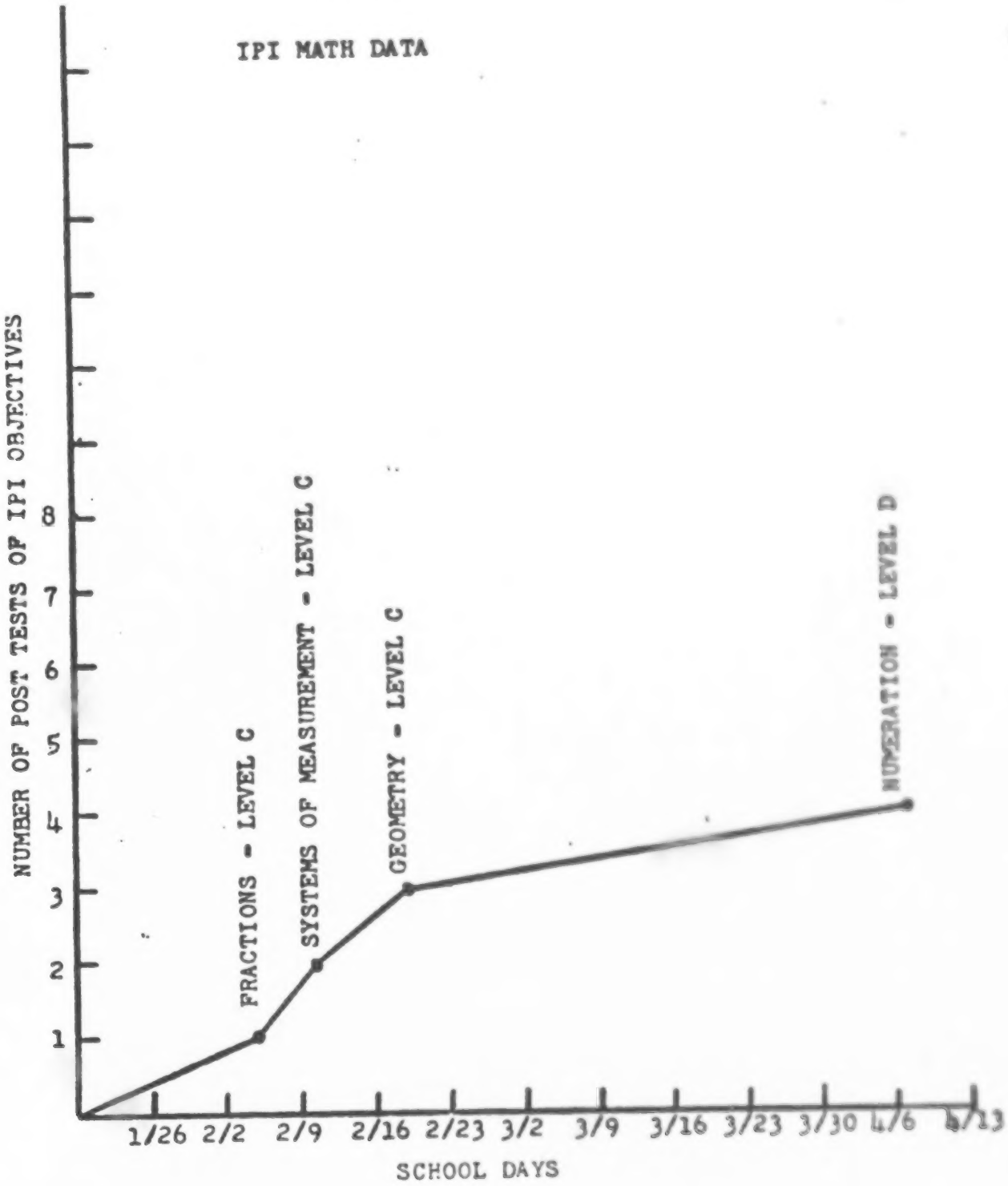
Six System 80 levels completed.



Average= 16.75 days/completion of IPI level.

IPI MATH DATA

STUDENT O.G.



WEEKLY CRITICAL BEHAVIOR OBJECTIVES

STUDENT O.G.

SOCIAL BEHAVIORS OF GENERAL CONCERN	COMMENTS
WEEKS # 1 and 2 (no date given) a) Raising hand. b) Staying in seat. c) Working on task. d) Remaining quiet. SOCIAL BEHAVIORS OF UNIQUE CONCERN TO O.G. a) Being neat. b) Being respectful.	Doing well on all, but "talking back".
WEEK #3 same list of six behaviors	Still talks back. Some problems of "fussing" and "singing out".
WEEK #4 same list of six behaviors	More respectful in classroom. Very "uppity" outside. Works independantly well.

PERRY SCHOOL

CALIFORNIA AND METROPOLITAN ACHIEVEMENT PRE-TEST SCORES

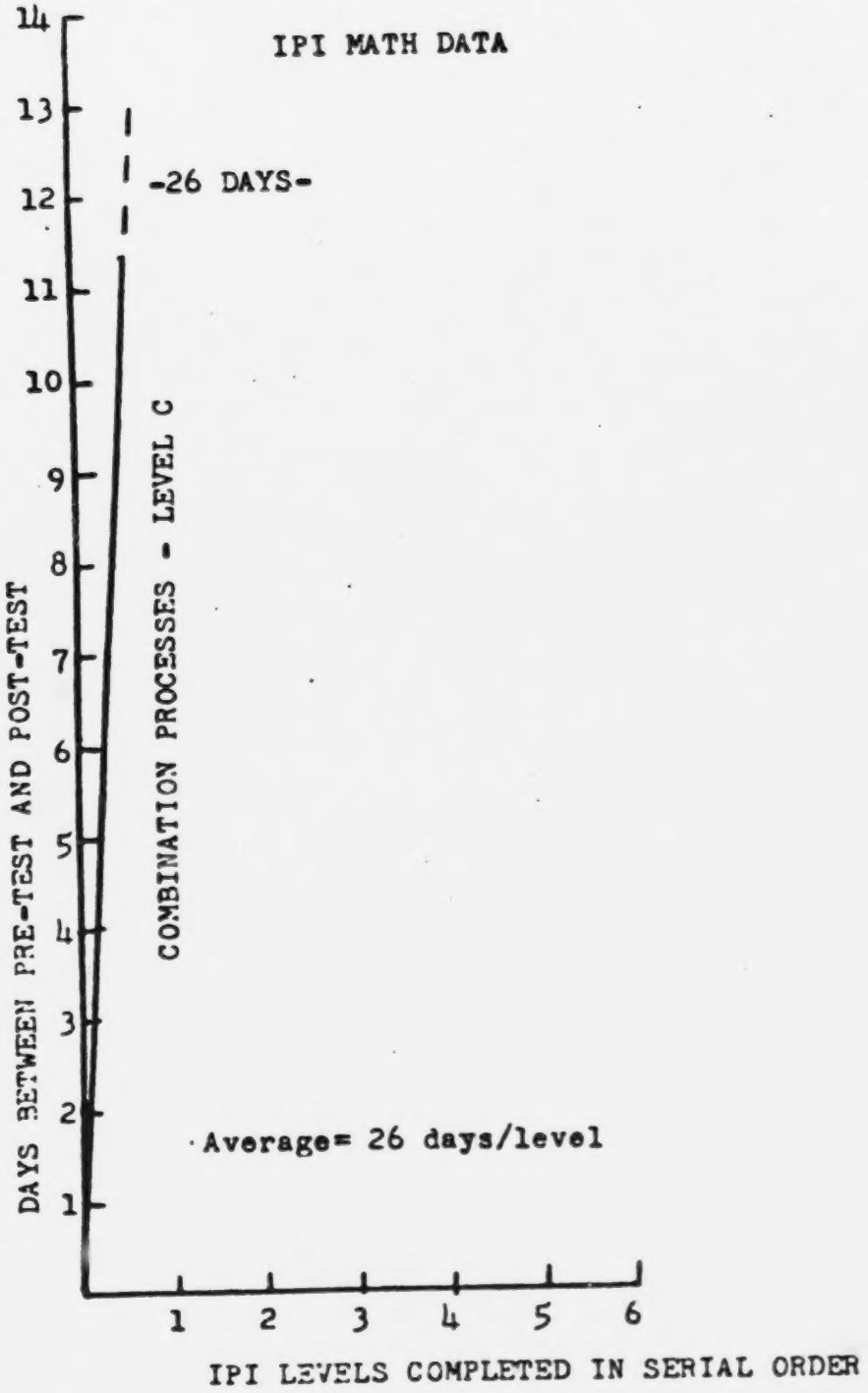
CALIFORNIA ACHIEVEMENT TEST - 10/28/69

	W.R. 6/5/58 GRADE 5		G.S. 10/13/58 NO GRADE	
READING	SCORE	GRADE	SCORE	GRADE
A. WORD RECOGNITION	15	2.9	16	3.2
B. OPPOSITES	22	4.4	6	2.0
TOTAL READING VOCABULARY	37	3.9	22	2.5
C. FOLLOWING DIRECTIONS	12	3.7	3	1.9
D. REFERENCE SKILLS	7	3.9	3	2.0
E. INTERPRETATIONS	5	2.3	6	2.4
TOTAL READING COMPREHENSION	24	3.0	12	2.2
TOTAL READING	61	3.4	34	2.3
METROPOLITAN READING SCORE	(6/69)	4	(6/69)	3+
ARITHMETIC				
A. ADDITION	/	/	/	/
B. SUBTRACTION	/	/	/	/
C. MULTIPLICATION	/	/	/	/
TOTAL ARITHMETIC	/	/	/	/
METROPOLITAN ARITHMETIC SCORE	/	/	/	/

IPI MATH DATA

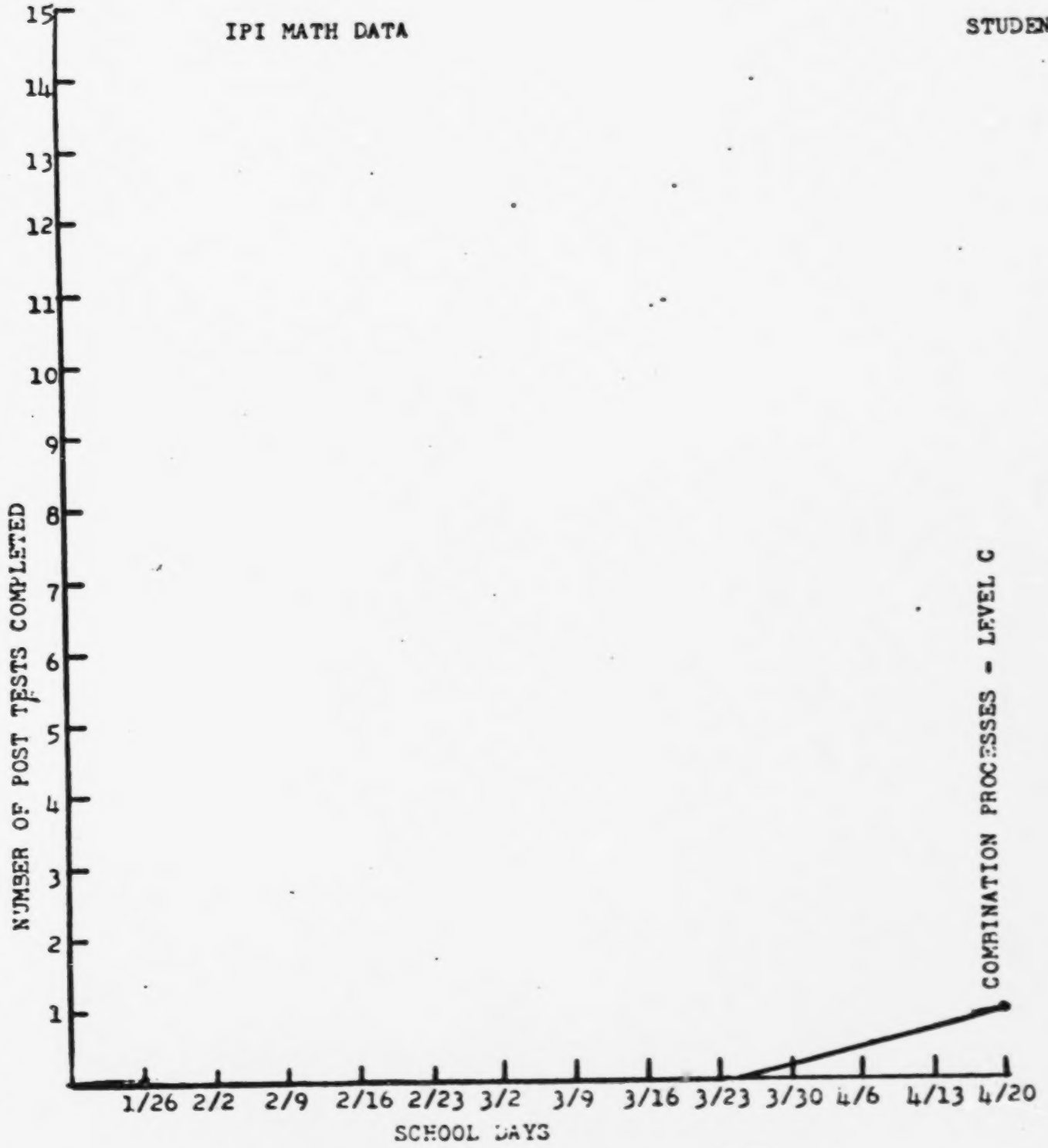
STUDENT W.R.

Eight Sullivan Books Completed.



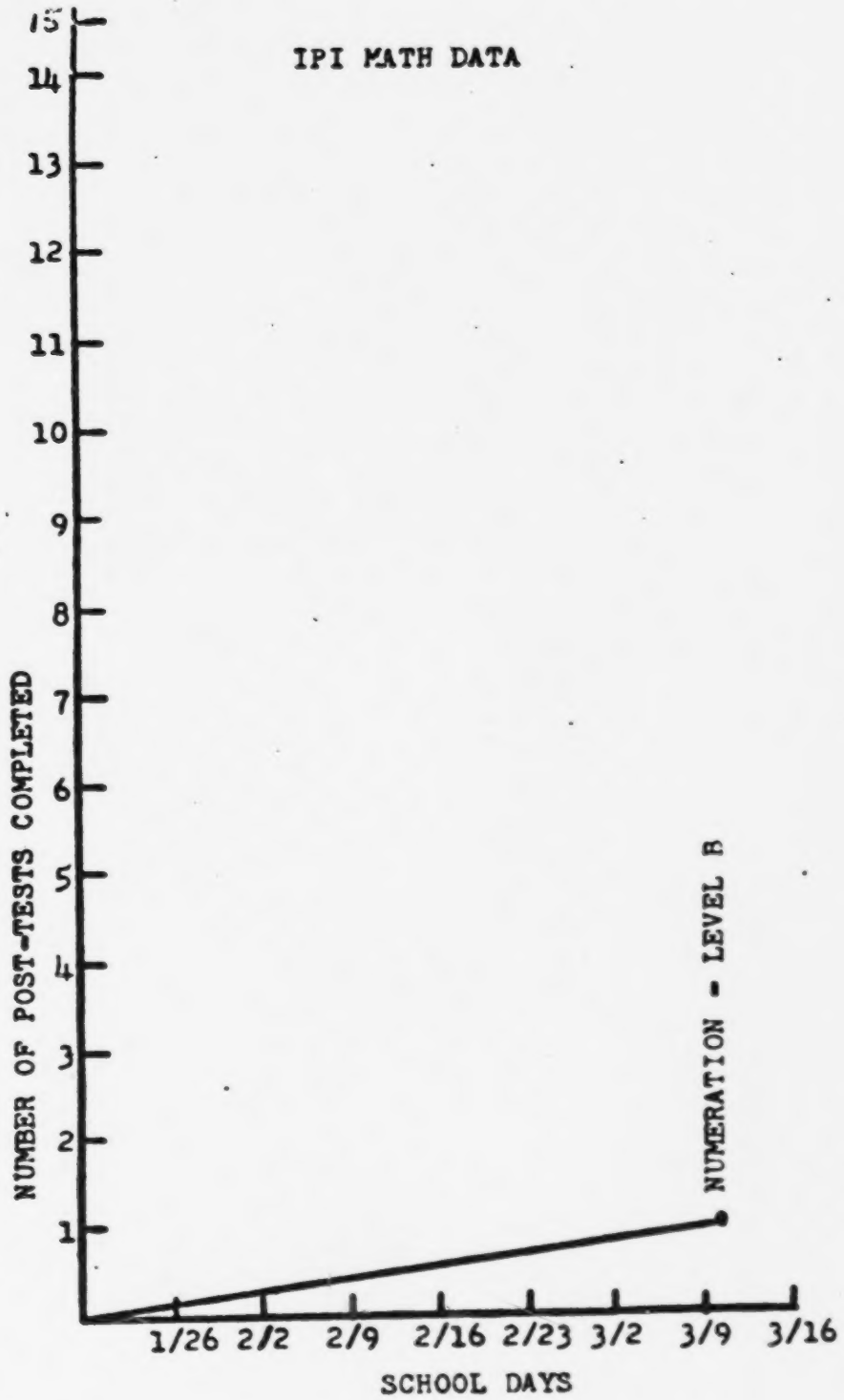
IPI MATH DATA

STUDENT W.R.



IPI MATH DATA

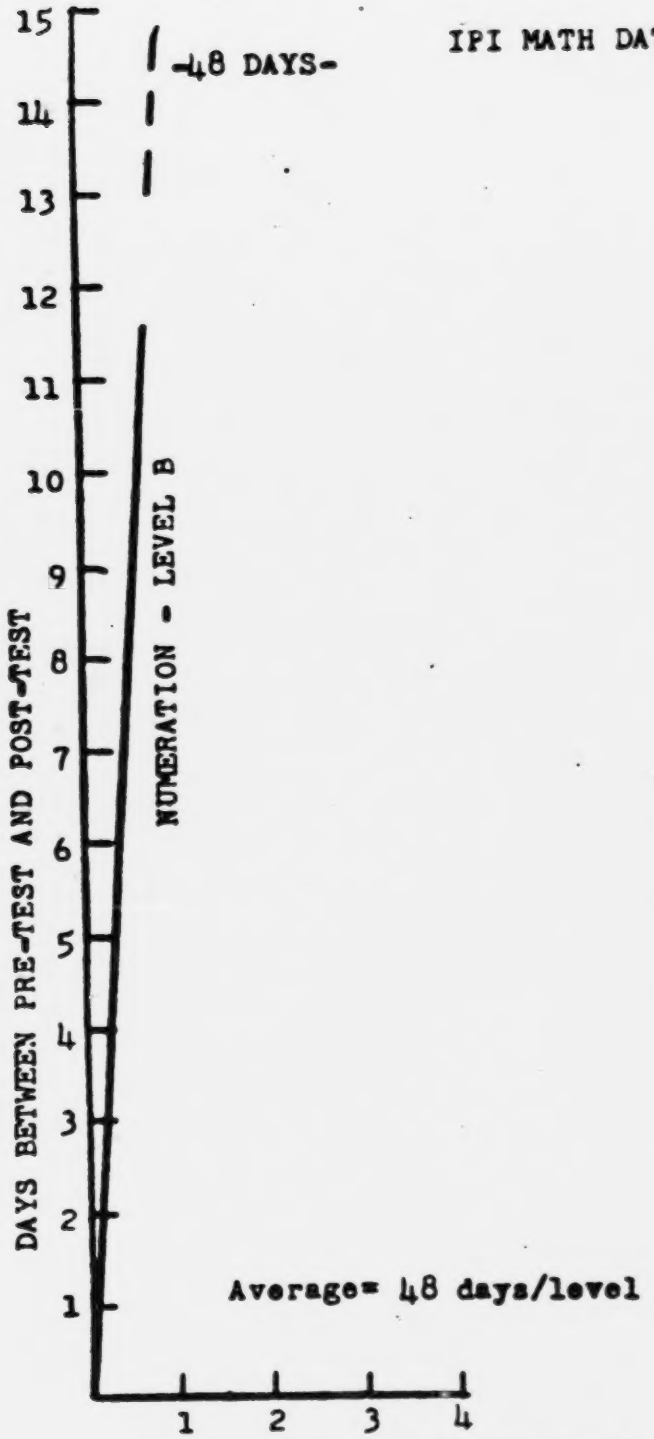
STUDENT G.S.



IPI MATH DATA

STUDENT G.S.

Fifteen Sullivan Books completed.



GIDDINGS SCHOOL

CALIFORNIA AND METROPOLITAN ACHIEVEMENT PRE-TEST SCORES

CALIFORNIA ACHIEVEMENT TEST - 10/24/69

READING	M.L. 10/18/58 GRADE 5 SCORE	GRADE	T.B. 6/8/58 GRADE 5 SCORE	GRADE	R.S. 5/9/58 GRADE 4 SCORE	GRADE
A. WORD RECOGNITION	15	2.9	13	2.4	8	1.5
B. OPPOSITES	7	2.2	7	2.1	4	1.8
TOTAL READING VOCABULARY	22	2.5	20	2.3	12	1.7
C. FOLLOWING DIRECTIONS	8	2.9	10	3.3	1	/
D. REFERENCE SKILLS	6	3.6	6	3.6	1	/
E. INTERPRETATION	8	2.7	10	3.1	1	/
TOTAL READING COMPREHENSION	22	2.8	26	3.2	3	/
TOTAL READING	44	2.7	46	2.8	15	1.5
METROPOLITAN READING SCORE	(1967)	2	/	/	(1967)	1.9
ARITHMETIC						
A. ADDITION	48	4.0	49	4.3	41	3.2
B. SUBTRACTION	47	4.2	47	4.2	4	1.2
C. MULTIPLICATION	43	4.6	39	4.4	2	1.7
TOTAL ARITHMETIC	138	4.2	135	4.1	47	2.4
METROPOLITAN ARITHMETIC SCORE	/	/	/	/	/	/

SUMMARY OF DATA

SCHOOL	NUMBER OF STUDENTS FOR WHOM DATA WAS AVAILABLE	IPI LEVELS COMPLETED	AVERAGE	SYSTEM-80 LEVELS COMPLETED	AVERAGE	SULLIVAN BOOKS COMPLETED	AVERAGE
BARNARD	6	42	7	73	12.11	34	5.67
CLARK	6	13	2.17	32	5.3	59	14.75
PERRY	9	19	2.11	/	/	/	/
GIDDINGS	9	/	/	/	/	64	7.11

Above is a summary of the available data. These data do not support any conclusions but suggest that the Barnard class was the most effective as shown by these particular measures. In the future, data, like these, collected with regard to additional variables and in a more systematic manner could be used to evaluate staff effectiveness.

Progress with regard to major objectives (pp. 1, 2, and 3 of this report):

Some of the objectives of the proposal were successfully fulfilled, while most were not. Although the effectiveness of behavior modification techniques as applied in Project DILE can be discussed in global terms, as was seen, there were few hard data collected which specified baseline performances of children. Data which showed improvement as a function of specified variables in the classrooms were not collected. Observation in the classrooms is convincing that students are behaving relatively well and are making satisfactory progress. Methodology and data collection, have not been systematic and one cannot comment on the relevance of specific variables. The lack of rigor in the research procedures results for many reasons. Some of these reasons relate to students refusing to sit through pre-tests, the lateness of the Department of Pupil Personnel Services in selecting the subjects, the failure of Pupil Personnel to select controls, the failure of the project director to implement the research aspects of the described design, and the lack of research and data treatment skills of the staff. The overall impression is that a behavior modification approach is effective as an educational technique, but no systematic design was imposed to scientifically test this. Because the project seemed to be somewhat disorganized, because the staff was relatively unskilled, because there was no systematic collection and treatment of the data, because conditions did not encourage support from the host schools, one can conclude that the success of the program was due to good curriculum materials, and the application of behavior modification techniques (principally a token check-mark system.) A rapidly growing body of professional literature suggests that behavior modification techniques are relevant to the education of all people, regardless of labels that have been placed on them.

A full-time instructional program for seriously emotionally handicapped students is being conducted. Students who had been truant; students who had not been to school for years; students who have long histories of failure in school, are actively involved in academic school programs. The programs seem to be helpful in eliminating the undesirable behaviors of the students, but this is hard to evaluate in view of the lack of baseline data relevant to the undesirable behaviors of the students. Soft data, such as comments of DILE staff, principals, other school staff, and parents suggest that undesirable behaviors are being weakened.

Many questions can be raised concerning "returning the students to the mainstream of public school education." Is this indeed a desirable objective of the project? Generally aversive controls are used in most traditional classrooms. Teachers tend to respond more to disruptive, undesirable behaviors, than to desirable behaviors. If the assumption is true that behavior is a function of the environment in which it occurs, the problem is not the students of the project, but the traditional classroom environment. By bringing about changes in that traditional classroom and replacing it with the DILE classroom, the generally inexperienced project staff has been more successful than many experienced educators in effecting desirable changes in the social and academic behaviors of the students.

By bringing about changes in the ways teachers interact with students, the project teachers have been more successful than many experienced teachers in effecting desirable changes in the DILE students. These factors cannot be overlooked, particularly in view of the many problems that now face the D. C. schools. The question is, is it more desirable to return these students to an environment which is generally aversive, which will attend to and once more strengthen undesirable behavior, or is it more desirable to bring about changes in all the schools by developing more classrooms which approximate DILE classrooms. If DILE has been somewhat successful in building desirable behaviors of students labelled disturbed, how much more success would be achieved with the skillful, motivated student?

It does not seem that adequate preparations are being made to return the students to traditional classrooms. In order to accomplish a successful transition, the behaviors developed in the DILE environment must be carefully brought under the control of an enviornment which approximates that traditional school classroom. Without such a fading program, it would be naive to assume that the new and fragile behaviors developed in environments built by DILE staff will generalize to other environments in which the contingencies of reinforcement are not constructed to support them.

The project has all but totally failed in involving the parents. Parents are involved only to the extent that individual staff members initiated parent involvement. The project was not designed to actively involve the parents. No contingencies were imposed on staff behavior to encourage their involving parents. Courses for parents, utilizing an approach consistent with the DILE orientation have been developed and are being used in several schools throughout the country, (Walder and Cohen, in press).

A major goal for the immediate future of the DILE project should be the involvement of parents and staff in training programs.

The one week in-service training program which actually did occur was described by all interviewed staff personnel as worthless and irrelevant. No progress was made in developing DILE classrooms as potential staff training centers in the education of (emotionally handicapped) children. No packaged in-service training program has resulted from the project.

Some of the questions regarding the effectiveness of a token economy have been partially answered. It can generally be concluded that the token economy is helpful in motivating students and supporting their desirable behaviors. Because control students were not identified, the proposed experiments relevant to evaluating the token economy could not be performed. However, there has already been much work done to suggest answers to question number 3 (p. 2 of this report). If the environmental supports for any behavior are <u>abruptly</u> removed, the behavior will abruptly deteriorate. Programs can be built to gradually change the environment so that the behavior does not deteriorate.

Summary of observation and recommendations.

The major failings and successes of the project have been specified above and throughout the pages of this report. In summary, the major strengths of the project appear to be as follows:

1. The project administration is flexible and ready to develop innovative procedures.

2. The project administration is heading toward utilizing an effective behavioral technology with a difficult population.

3. In its first year, the project has been more successful in controlling and containing a population of children who in the past have been neither controlled nor contained.

4. The project has much potential. Administration hopes to develop this potential in the directions of:

   a) Training centers for parents, project staff, and school personnel.

   b) Research centers to further investigate and refine the application of behavior modification procedures in educational settings.

   c) Centers to serve the school and school district through technological assistance to other classrooms and schools through consultation.

The major failings of the project are as follows:

1. The project failed to fulfill most of the objectives as specified in the proposal.

2. A training program for staff did not occur.

3. A parent program was not established.

4. There was no systematic collection of useful data.

5. Good relations with the administrations of the host schools were not established. Principals were generally excluded from, rather than included in project plans and developments.

Specific recommendations:

A summary of the specific recommendations can be divided into four major areas as follows:

Data and research:

1. Control groups should be identified.

2. Pre and post tests should be systematically administered to both groups.

3. Measures on curriculum materials should be related to measures on pre and post tests.

4. Rates of performance should be recorded.

5. Work-record cards should be constructed in ways so that they provide useful data instead of check marks in squares.

6. Weekly social and academic behavior reports by staff should be revised to provide more useful data. Ongoing graphs showing progress of students should be up to date.

7. Staff should be trained in the fundamentals of data treatment.

8. A ongoing overall evaluation should be built. A design for evaluation should be built prior to the second year of the project.

9. Video taping in DILE and Control classrooms should be part of the evaluation program.

10. An observation program using paid observers, high school students, parents, teachers, and administrators as observers should be established to collect process data.

11. Some research questions regarding the token economy, reinforcers, teacher-student interactions, etc., should be answered through designed experiments.

Classroom management:

1. Progress of students should be publicly displayed.

2. Curriculum materials should be used as specified by puslisher, or in ways to get maximum information from their use.

3. All materials presently owned by the project should be inventoried and a workshop to train staff in the use of the materials should take place.

4. Social studies and science materials should be built.

5. More group activities should be built into the program so that social behaviors can be built.

6. Rules should be established to control staff in giving out check marks to students. Behavioral criteria should be established so that students know what behaviors are required of them.

7. Rules for acceptable behavior in the classroom should be posted and frequently reviewed by the class.

8. Staff should model the behaviors desired from the child. If staff members wish students to work, the staff should work.

9. Teachers should specify behaviors which are being reinforced or punished.

10. Time-out as it presently exists in the DILE classes should be omitted as a procedure.

11. Staff should reinforce a behavior immediately following the behavior.

12. Students in these classes should not be allowed to go home for lunch.

13. A continuing search for material reinforcers in the classroom must be carried on. Such a list might include:

    a) Opportunity to sit next to someone.
    b) Opportunity to sit with shoes off.
    c) Opportunity to use certain materials and equipment.
    d) Opportunity to be a teacher's aide.
    e) Opportunity to be a safety patrol.
    f) Opportunity to speak before the class.
    g) Opportunity to visit school principal.
    h) Recess.
    i) Art.
    j) Physical Education.
    k) Field trips.

14. Provisions should be made so that staff members do not spend their own money to purchase reinforcers.

<u>Administration and Public Relations</u>:

1. School administrators associated with the project should be informed as to the philosophy and methodology of the project. Principals should be invited to take part in the training course.

2. The project should serve the host school and school district.

3. Liaison with school principals should remain up to date and they should be encouraged to participate in the program. Their support should be sought (see Appendix E).

4. Other staff in the host school should be allowed to observe in the DILE classrooms and to participate in DILE training programs.

5. The host school, where possible, should be allowed to use DILE equipment and materials.

6. A special status should be afforded special education teachers to erase the stigma seemingly attached to special education.

7. Better and more consistent communication should be established between DILE administration and DILE staff.

8. Behavioral objectives should be specified for DILE staff.

9. A full-time project coordinator should be employed.

10. Local experts in Behavior Modification should serve as consultants to the project.

11. An open house in DILE classrooms should be conducted for parents to teach them the methods of the class.

Training:

1. A parent-program should be established to foster collaboration between home and school and to develop the child-rearing skills of parents.

2. An in-service training program for educational personnel (DILE staff and others) should be established to focus on:

    a) behavior modification techniques.
    b) collection and treatment of data.
    c) working with parents.

Recommendations:

It must be clearly stated that although the project fulfilled only some of the specified objectives, there were other unspecified objectives which were fulfilled. A new classroom model relevant to the problems of these particular students in this particular school system was developed. Many useful things were learned in the transition from the Engineered Classroom to the DILE Classroom. Hopefully this information will be disseminated throughout the school system. Hopefully, this information will effect some changes in the school system.

In spite of several major failings, the DILE project must be viewed as a generally successful project. It is a project with potential and many implications for public education in Washington, D. C. (and elsewhere). In order for this potential to be realized, continued funding of the project is recommended.

References Cited

Cohen, S. I., Kleiner, R., Meusel, J., Schlieman, R., Keyworth, M., and Riley, L. "The Anne Arundel County Learning Center: Progress Report". Mimeo submitted to Maryland State Department of Mental Hygiene. November, 1969.

Hewett, F.M. Educational Engineering with Emotionally Disturbed Children. Exceptional Children, 1967, 33 459 467.

Krasner, L. and Ullmann, L. (eds). Case Studies in Behavior Modification Holt, Rinehart and Winston, Inc. New York. 1965.

Krumboltz, J. D., and Thoreson, C. E. (eds.). Behavioral Counseling. Holt, Rinehart and Winston, Inc. New York, 1969.

Ulrich, R. and Wallace, F. "Pyramidal Instruction". Paper presented at Symposium on Behavior Analysis in Education. Lawrence, Kansas. April, 1970.

Walder, L. O. and Cohen, S. I. "Parents as Change Agents". In S. E. Golann and C. Eisdorfer. (eds.). Handbook of Community Psychology and Mental Health. Appleton-Century Crafts.

Final Evaluation Report

ESEA Title III Special Education Project

Severely Mentally Retarded: Training Adaptive Behaviors

Prepared by: Dr. Stephanie B. Stolz
Assistant Professor of Behavioral Analysis
Department of Psychiatry,
The John Hopkins School of Medicine
and
Chief, Small Grants Section,
National Institute of Mental Health

Project Summary

Title: Severely Mentally Retarded: Training Adaptive Behaviors

Group Served: Severely Mentally Retarded Children

Project Location: Developmental Center

Title III Funds Allocated: $21,018

Number of Children Served: 6

Background and Rationale:

Research shows that in the District of Columbia, there are approximately 550 severely mentally retarded children. Of this number at least 20 are not enrolled in any class, primarily, because of problems as behavior, lack of toilet training, and the inability to take care of personal needs rather than inability to profit from training and instruction.

The project endeavors to deal with these excluded children in an "intake class", or on the premise that all children should have the opportunity to develop to their maximum potential.

Project Objectives:

1. To provide training and instruction for severely mentally retarded children of school age not now being served.

2. To study the general problems involved in the care and instruction of severely mentally handicapped and ways of resolving these problems.

3. To provide an effective full-time instructional program specifically geared to meet each child's individual needs; the goal of the program will be to return the children to the mainstream of public education.

4. To understand the unique problems of each handicapped child through a systematic analysis of his behavioral repertoires.

5. To show the efficacy of special techniques like operant conditioning in increasing the probability of effective gains in a classroom situation applied to the reduction of a multiplicity of problems.

6. To program the methodology so that following the period of the project it can be applied by any teacher of a SMR class so that segregation of the child with special problems becomes unnecessary.

7. To involve parents as much as possible in the process of training their children.

Project Methodology:

A teacher and a teacher's aide worked for an entire school year with a class of six severely mentally retarded (SMR) children, excluded because of their lack of toilet training or their hyperactivity from regular public school SMR classes. The principle of operant conditioning was adapted to and applied in a classroom situation in an effort to shape the children's behavior and raise their performance to a level acceptable in the Public School classes. Following extensive observation of the children and ratings based on the TMR Performance Profile, skill hierarchies were established for each child in six areas: social behavior, self-help, communication, basic knowledge, practical skills, and body usage. A specific list of small training steps was developed for each desired goal behavior for each child. Candies, sweetened cereals, and the praise and attention of the teacher and teacher's aide were the rewards used to motivate the children to progress through the skill hierarchies. Rewards were given immediately for successful completion or for any approximation of the desired skill in the hierarchy; when the child mastered a particular skill, focus shifted to the next step in the hierarchy. Small amounts of reward were used to maintain established behavior, while larger amounts were used as reinforcement in the latter steps of the skill hierarchy. Undesired behaviors were ignored unless the child was physically hurting himself or another child.

Evaluation Plan:

Both internal and external evaluation procedures were incorporated into the program. The teacher and the teacher's aide, trained prior to the beginning of the program in rating techniques, determined the TMR Performance Profile for each child at the beginning of the program, six weeks later, and at the end of the school year. This quantification of each child's behavioral and social functioning abilities on a broad range of activities provided a base on which to develop individual skill hierarchies.

In addition, an observation system was set up permitting daily observation of each child by an observer relatively unconnected with the program. In the beginning of the project each day two observers scored two children for periods of 25 minutes each, noting 10-second periods of positive attention to school work and specific types of inattentive behavior interrupting a given 10-second period.

Results:

A. Classroom Program.

At the end of the year, five of the six children attained higher TMR Performance Profile scores than they had at the initial administration of the test. On the basis of their scores the children, as a group, showed the greatest improvement in self-care, body usage, and communication, respectively. They showed little evidence of change in their social behavior and practical skills, and practically no improvement in basic knowledge.

Results: (continued)

In addition to these quantified improvements, observation of the classroom revealed a definite qualitative improvement in the classroom atmosphere during the course of the year. By the end of the program, children sat in their seats much of the time, seemed happy, quiet and attentive of their work.

All of the children were quickly toilet-trained and all but one appeared ready by the end of the program to participate in regular SMR classes.

B. Teacher Training

Other than the training of the teacher and teacher aide administering the program, no teacher training was carried out during the year. However, the Program Coordinator has outlined a training program for future implementation.

C. Parent Training

Due to a variety of circumstances parents were involved minimally in the program. While a training program for parents was conducted by the staff, it came too late in the school year to motivate parents sufficiently.

Consultant's Comments and Recommendations:

The consultant made the following comments:

1. The TMR Performance Profile scores had limited value. From the data it was possible to rank the children's relative improvement but not to make a detailed statistical evaluation of an individual child's progress. Differences in initial and final TMR scores must be interpreted cautiously on the grounds that no information on the test-retest reliability of the scores was available. Either the TMR Performance Profile should not be used in the future, or control groups should be introduced.

2. The use of skill hierarchies encountered several problems. To improve the process, terminal skills should be taught first, children should occasionally be tested with the final behavior, teachers and teachers' aides should be trained to record a child's performance on each step in the skill hierarchy.

3. The observation method used by independent observers emphasized inattentive behavior rather than attentive behavior leading to a conservative estimate of classroom improvement.

4. Of the five children who showed improvement, the one showing the least improvement was not interested in any of the snack rewards used in the operating conditioning process, suggesting that her minimal improvement was due to her lack of participation in the operant conditioning procedure.

Abstract
Final Evaluation Report

Title: Severely Mentally Retarded: Training Adaptive Behaviors

Background:

Research shows that in the District of Columbia, there are approximately 550 severely mentally retarded children. Of this number at least 20 are not enrolled in any class, primarily because of problems as behavior, lack of toilet training, and the inability to take care of personal needs rather than an inability to profit from training and instruction.

This proposal endeavors to deal with these excluded children in an "intake class", on the premise that all children should have the opportunity to develop to their maximum potential.

Director: Dr. Stanley Jackson

Location: Developmental Center for Special Education

Date: March 1, 1969 - June 30, 1970

Target Population: Eight SMR children from the District of Columbia

Staff: 1 Director, 1 Teacher, 2 Teacher Aides

Cost: $21,018.00

Special Class in Adaptive Behavior
Final Evaluation Report
Stephanie B. Stolz, Ph.D.

This report is my final evaluation of the results of the first year (1969-1970) of the special class in adaptive behavior for severely mentally retarded children. This special class was supported by funds from ESEA Title III, to the Department of Special Education, Developmental Center for Special Education, Public Schools of the District of Columbia. This final report will include some of the material from my preliminary evaluation, which has already appeared in the Interim Evaluation Report, as well as additional material gathered since April, 1970. This additional material includes further observations of the classroom, additional discussion of the program with the educational specialist (Mr. Wulkan) and the program coordinator (Mr. Nathenson), and my conclusions from examination of the final data obtained from the program. These data include further observational records made in the classroom, as well as the second administration of the T. M. R. Performance Scale.

The special class in adaptive behavior has a number of specific objectives, as outlined in the proposal of 27 January 1969. These objectives are:

1. To provide training and instruction for severely mentally retarded children of school age not now being served.

2. To study the general problems involved in the care and instruction of severely mentally handicapped and ways of resolving these problems.

3. To provide an effective full-time instructional program specifically geared to meet each child's individual needs; the goal of the program will be to return the children to the mainstream of public education.

4. To understand the unique problems of each handicapped child through a systematic analysis of his behavioral repertoires.

5. To show the efficacy of special techniques like operant conditioning in increasing the probability of effective gains in a classroom situation applied to the reduction of a multiplicity of problems.

6. To program the methodology so that following the period of the project it can be applied by any teacher of a SMR class so that segregation of the child with special problems become unnecessary.

7. To involve parents as much as possible in the process of training their children.

Working with children who have not had regular schooling for long periods of time because of their difficult social behaviors, the teachers and project staff have achieved remarkable improvements in these children. Though as will be seen in the discussion of the data below, not all children showed striking improvements maintained over extended periods of time; several of the children did show such improvements. In addition, for those children for whom quantitative improvement cannot be demonstrated on the measures taken, qualitative improvement was evident when they were observed in the classroom.

My evaluation of the program is that it has met virtually all of the initial objectives listed above. Plans for the continuation of the program are well-developed, explicit, and scientifically sound.

In this report, I will review the initial objectives which I have quoted above from the original proposal, and discuss the extent to which these objectives have been met in the program. In addition, I will review and comment upon new insights upon working with severely mentally retarded children which the project staff have had as a result of this program, upon the future plans for this project, and upon the plans for dissemination of the procedures and results of this project.

Classroom Program

The first five of the initial objectives relate to the classroom program, and they will be discussed as a group.

The Children

For the special class in adaptive behavior, severely mentally retarded children were chosen who had been excluded from the Public Schools of the District of Columbia either because of lack of toilet training or because of severe hyperactive behavior. Adequate data to permit an evaluation were available for five of these children:

K: a disturbed girl, who often clung to adults inappropriately, and at other times, shut out the world by putting her hands over her ears.

R: a boy with Hurler's disease and severe hearing loss; he spent much of the time making inappropriate noises.

H: a hyperactive boy.

C: a hyperactive girl

E: a girl with cerebral palsy.

In addition, TMR Performance Scale data but not observational data were available on a sixth child:

G: a slow moving and lethargic boy, over-weight and short, who often fell asleep in class.

Observational data were not taken on this boy because at the start of the program he was already attending as well as the teacher wanted.

Preliminary Evaluations

When they joined the special class in adaptive behavior, the children had obvious problems which had caused them to be excluded from the regular school system, and to be selected for this special class.

TMR Performance Profile. A thorough evaluation was made by the project staff of the current behavioral and social functioning level of each child at the beginning of the program and again at the end of the school year, by means of the TMR Performance Profile for severely mentally retarded children. This test is an evaluative scale based upon observations made by the teacher and the teacher's aide. With this scale, the current abilities of a child can be quantified on a broad range of activities, including those most frequently found in curriculum guides for the severely retarded. Table I presents the six major areas of the TMR Performance Profile, and the four related topics under each of the major areas. Under each of these 24 topics, the test has ten related performance items; each item was selected for the test because it fell within the scope of the experiences and potential abilities of a severely mentally retarded child. The child is rated on each item with a score indicating on which of five descriptive levels of performance his behavior is. These five levels, coded zero through four, range from "negative or non-performance or no display of awareness" (zero) through "a realistic goal" (three) to "performance above the goal" (four). The persons developing the test see an average score of three as a desirable goal. The score of four is included so that even the most capable mentally retarded child will presumably not be able to do better than a full score.

In the special class in adaptive behavior, the TMR Performance Profile was determined for each child at the beginning of the program, and then again at the end of the beginning of the program, and then again at the end of the school year. Before the initial administration of the test, the teacher and the teacher's aide were given extensive training in making the sort of ratings required by this test. The training continued until the ratings obtained by the teacher and by the teacher's aide agreed 80% or more of the time. After it was determined that the teacher and the teacher's aide were rating the children by the same criteria--as demonstrated in the high degree of agreement between them, the teacher and the teacher's aide independently made complete performance ratings for each of the six children in the program. This same procedure was followed in the administration of the Scale at the end of the school year. Correlations between the ratings of the teacher and the teacher's aide for each of these administrations of the Scale are presented in Table I. These correlations represent the degree of agreement between the two raters. With regard to the initial reliability measures, the agreement is very high for most categories, indicating that the two raters continued to make decisions on the basis of the same criteria. The only category

Table I

Areas evaluated on the TMR Performance Profile. The numbers indicate the degree of agreement between ratings of the teacher and the teacher-aide, in the initial testing and in the testing at the end of the year.

Major Area	Related Topic	Initial Reliability	Final Reliability
Social behavior	Self control	.70	.80
	Personality	.64	.84
	Group participation	.38	.80
	Social amenities	.73	.91
Self-care	Bathroom and grooming	.99	.98
	Dealing with food	.94	.97
	Clothing	.92	1.00
	Safety	.88	.92
Communication	Modes of communication	.83	.96
	Listening	.98	.91
	Language activities	1.00	1.00
	Language skills	1.00	1.00
Basic knowledge	Information	.94	.99
	Numbers	1.00	.99
	Awareness	.95	.96
	Social Studies	1.00	1.00
Practical skills	Tools	.98	1.00
	Household items	.96	.96
	Family chores	.92	1.00
	Vocational readiness	.65	.88
Body usage	Coordination	.99	.99
	Health habits	.99	.99
	Fitness	.96	1.00
	Eye-hand coordination	.98	1.00

with unsatisfactory reliability is that of Social Behavior, where the reliability in all topics fell below 80%. The teacher reported that she felt that a more accurate rating could be obtained after they were more familiar with the children. This suggestion was followed, and reliabilities better than .90 were obtained when the children were re-rated on the social behavior items six weeks later. Thus, one can conclude that accurate assessment was made of the children on all the scales of this test at the beginning of the classroom program, or shortly thereafter. The final reliability measures are consistently high, again indicating that the two raters were in agreement nearly all of the time, and that they were rating the children by the same criteria.

Table II presents the average rating for each child on each of the six major areas of the TMR Performance Scale, as well as his average rating on the entire scale, both at the beginning and at the end of the program. These average ratings are based on the ratings of the teacher only, as the teacher and the teacher's aide tended to agree in their ratings, as shown in the reliability correlations. Only those items are included on which the child was rated both in the beginning of the program and at the end, so that the "before" and "after" scores would be completely comparable. On the whole, the improvements shown by the individual children on the various major areas of the TMR Scale are small, though it should be noted that the entire scale was only from zero to four, so that an improvement of even one scale point is meaningful. To evaluate these results, I will first discuss the performance of the individual children, and then compare their performance as a group across the various areas.

In terms of improvements in the scores of the individual children, each child's improvement, as measured by the difference between his initial score and his end of the year score, can be compared with the other children's improvement during the year. In those terms, definite improvement can be said to have been shown by both H and K, and moderate improvements by C, G, and E. R's scores showed no meaningful change. The largest improvements on particular areas were shown by H, in the areas of basic knowledge and communication, and by K, in the areas of self-care and body usage. Nearly as large improvements were shown by C on self-care, and by H on body usage. All these improvements were more than one scale score each.

In this discussion of individual improvements, it can be seen that particular major areas of the Scale are mentioned repeatedly. It is a meaningful question to ask whether the children as a group improved consistently more on some scales than they did on others. This question can be answered statistically by the coefficient of concordance, which is an index of the extent to which the children improved on the same scales (and also didn't improve on some other scales). For these data, that coefficient is 0.60, which is significantly different from zero ($X^2 = 17.8$, $df = 5$, $p < .01$), that is, the statistic shows that the children did indeed tend to improve on the same scales. Inspection of Table II suggests that the improvement was [illegible]n on self-care, body usage, and communication, in that order, that is, [illegible]th self-care evidencing the greatest improvement. The children tended not to improve on basic knowledge, and very little change was shown on the social behavior and practical skills scales.

Table II

Individual scores on the major areas of the TMR Performance Scale. First testing was at the beginning of the program; second testing, at the end of the school year.

TMR Area / Child Test:	G. 1	G. 2	K. 1	K. 2	R. 1	R. 2	C. 1	C. 2	E. 1	E. 2	H. 1	H. 2
Social Behavior	2.5	2.6	1.0	1.3	.9	1.9	1.4	1.6	1.8	1.7	1.4	2.3
Self-care	1.5	2.4	.8	2.1	.3	.8	1.3	2.4	.4	1.3	1.6	2.7
Communication	1.6	2.1	.1	.9	.1	.2	.9	1.7	.4	1.4	.8	2.2
Basic Knowledge	.4	1.2	0	.5	0	.03	.1	.8	.03	.4	.2	1.4
Practical Skills	1.6	1.8	.8	1.6	.4	.5	1.5	1.6	.9	1.2	1.5	2.3
Body Usage	1.0	1.7	.5	1.9	.2	.4	1.1	1.9	.2	.7	1.0	2.1
Overall Average Score	1.4	2.0	.5	1.3	.3	.6	1.0	1.7	.6	1.1	1.1	2.1

With regard to the comparison of this ranking of scales with the classroom program, the only surprise is that social behavior should have shown so little change. Otherwise, the scales showing greatest improvement represent the subject-matter areas receiving the greatest emphasis in the classroom.

A difficulty I have in making any further discussion or evaluation of the TMR Performance Scale scores is that such an evaluation would require some information on the test-retest reliability of the scores. Whenever a test is given to the same persons twice, particularly when the two testings are separated by an interval of time, one always expects that some small improvement will be shown in the scores, partly as a function of experience with the test gained at the first testing, and partly simply because the individual is somewhat older and more experienced, independently of any particular intervening training. Generally the publishers of tests such as this one provide an estimate of the change to be expected with retesting, so that persons using the test can compare the size of any differences they obtain with the amount of different resulting from this naturally occurring variation. However, in this case, the manual provided by the publisher does not contain this information, and I was unable to contact the publisher or to find the material in a university library. Therefore, I suggest that the differences observed in the children's scores should be interpreted with caution. If the test-retest reliability were very high, these differences would be quite meaningful. However, if the change in scores from testing to retesting were itself sizable, that might explain all of the difference observed. In the absence of the necessary information, it is impossible to conclude whether the differences found are meaningful.

One way to avoid this problem in the future would be, of course, not to use this particular test. However, another solution is to have some other group of children who are tested at the beginning of the year, not given a special program, and then retested at the end of the year. With such a comparison group, an estimate would be available of the amount of change to be expected in the TMR Scores just as a result of experience with the test and the passage of a year's time, and then the effect of the program on the scores could be determined. The design of the program which is planned for next year (see description later in this report) includes such a comparison, and hence will avoid the problem I found in interpreting this year's data.

Skill Hierarchies Based upon the TMR Performance Profile ratings and upon extensive observation of the children in the early days of the program, specific behavioral hierarchies were established for each child in six general areas: social behavior, self-help, communication, basic knowledge, practical skills, and body usage. These categories parallel the categories of the TMR Profile. The skill hierarchies were individualized for each child, so that the teacher and the teacher's aide would be able to work with each child differently, based upon his assets and difficulties in the beginning of the program. Such a training program is consistent with the principle from operant conditioning known as "shaping," that is, gradually changing a particular behavior from the form it happens

to have when you start teaching a child, so that it gradually becomes more and more like desired behavioral goal. With shaping, a desired behavior might come to occur more and more frequently, to last longer, or a new behavior might develop into a frequently used skill.

In order to develop these hierarchies, observations were made of the children to determine: (a) behaviors which were inappropriate or lacking, (b) behaviors which were desired, and (c) behaviors which the child already engaged in which might be shaped to become more desired behaviors. A specific list of small training steps was developed for each desired goal behavior for each child. Examples of the hierarchies are included in the Appendix. Some of these include quite a number of steps, other very few.

The idea of using the skill hierarchies is an excellent one, and, as I have noted above, consistent with what is known about learning. However, the execution of the hierarchies and their administration in this project encountered a number of problems, so that, on the whole, the use of the hierarchies cannot be rated a success. First, much research has shown that the best point in a skill sequence at which to begin teaching is at the end of the sequence. Thus, in teaching a child to tie his shoes, one should start with the bow almost completely tied, and have the child pull it tight. Once he masters this, he is then taught the step just before that. With such a training sequence, the child completes the act each time, giving him a feeling of accomplishment which continues throughout the training. However, the hierarchies designed for this project worked the other way, starting with the beginning of the skill sequence, thus probably making the hierarchies more difficult for the children to learn. Second, though the teacher and the teacher's aide apparently spent quite a bit of time teaching the individual skills, they were lax in recording on the sheets (see Appendix) just what they did when, and how long it took. As a result, it is not possible to evaluate the children's progress through the skill hierarchies in any way other than to say that some of them appeared to have acquired the desired skills.

Several procedures could be suggested for the future: First, as noted above, the hierarchies probably should be rearranged so that the terminal behaviors are the first taught. Second, the teacher and the teacher's aide should be trained to record on the charts each time they work with a child on a given skill hierarchy, not just when the child masters a given step. As it is, one cannot tell whether the interval of time between the completion of two successive steps was full of unsuccessful attempts or was a time in which that particular skill was not worked on. Third, the teacher and the teacher's aide should be given closer supervision so that they in fact cooperate with this procedure. And finally, when the hierarchies are being used, the teacher or teacher's aide should occasionally test the child with the final behavior in the hierarchy. If the child is required to complete each of the steps in the hierarchy, it would never be possible to know whether any of the procedures could be short-cut. For example, if a child is being taught to catch a ball thrown directly at him from a distance of ten feet, as in one of the examples in the Appendix, is it necessary for the teacher to proceed through the steps as given in that hierarchy, of first rolling the ball to the child from a given distance, then bouncing it to him, and finally throwing it to him, after which

she backs off one foot and goes through the sequence again? Perhaps after a child has caught a ball bounded from six feet, he could catch a ball thrown from eight. The way to test this is occasionally to give the child a step far in advance of that which he is currently supposed to be on.

Classroom Procedures

The procedures used in the special class in adaptive behavior were based on the methods and principles of operant conditioning. This is a part of psychology which emphasizes learning and training procedures based on rewards for appropriate behaviors, and in general, no particular attention paid to inappropriate behaviors.

Determination of Rewards In order to be able to use such a system, (Operant Conditioning) the teachers had to find something which was rewarding for each of the children. Because each person is unique, individual evaluations have to be made to find rewarding consequences for each one. In the special class in adaptive behavior, the teacher and the teacher's aide began with a selection of small candies and sweetened cereals, and soon determined the reinforcing value of each, for each child. During their work with each child they used the type of snack which they found he preferred. In addition, as I observed in the classroom, a great deal of social praise and attention was used with all of the children whenever their behavior improved and whenever they maintained a new accomplishment. The association of the adults' praise and attention with the snack should result in the praise and attention becoming rewarding even for those children initially not rewarded by the attention of an adult. Also, once the adult's praise and attention has become rewarding, the withdrawal of praise and attention can be used as a mild punishment. The teacher's aide reported that this was the primary manner in which they dealt with inappropriate behaviors, that is, they ignored and/or walked away from the child who was engaging in undesirable behaviors.

Shaping Appropriate Behaviors The rewards of candy, sweet cereals, praise and attention were used to motivate the children to progress through the skill hierarchies, and to reward them for improvement and maintenance of new skills. The teacher and the teacher's aide gave the rewards for any approximation to the desired behavior, as they worked with the individual children. Once the child mastered the simplest step in the skill hierarchy, the rewards then became available for approximation of the next step along. Each child worked with at the pace most appropriate for him. According to the Program Coordinator, these were the basic principles which the teachers trained to follow: (a) rewards were delivered immediately following the desired behavior or approximations to it; (b) in the initial learning of a new behavior, every successful response was followed with reward, but after the new behavior was established, rewards were given less often, (c) in the initial learning of a new behavior, large amounts of reward were used in the later stages, where smaller amounts of reward were used to maintain established behaviors; (d) all undesired behaviors were ignored unless a child was physically hurting himself or another child. These four principles are in accord with what is known about the best procedures for teaching children with the methods of operant conditioning.

Classroom Observations An excellent observational method was developed in the course of this project, which enables an outside evaluator to have a great deal of valuable information about the progress of the children throughout the course of the program. An observation system was set up so that each day, each child's behavior was recorded for an extended period of time by an observer who was relatively unconnected with the program. Two observers were in the classroom and each scored a different child for 25 minutes, after which he scored a second child for another 25 minutes. Thus, four children could be observed within an hour's observation period on any day.

The behaviors which were observed were the critical ones for these children: the amount of disruptive behavior and the amount of attention to their school work. Because the method used is somewhat complicated, and yet very important to the evaluation of this program, I will describe it in detail.

Two classes of behavior were defined: first "positive task attention" and second, a specific type of inattentive behavior, depending upon the problems of each individual child. The behaviors included in task attention are given in Table III. Briefly, the most important aspect of this class of behaviors was looking at the school work, that is, a child was scored as attending to his work if he was looking at it, although it was also counted as attending if he was looking at the teacher who was helping him. Several types of inattentive behavior were scored: hyperactivity, i.e., being out of one's seat without permission; inappropriate verbalizations or babbling; clinging, holding, or grasping the teacher or teacher's aide: and "shutting-out," i.e., placing one or both hands over the ears. If a child was not attending to the task and none of these specific inattentive behaviors was occuring, then a general category of inattentive behavior was scored, which included all other inattentive in-seat behaviors, such as eye or body orientations away from the task.

The behaviors noted above were scored each 10 seconds, that is, in each successive 10-second interval, a child's overall behavior was rated. In order to rate an interval as appropriate task attention, the child was required to be positively oriented toward the appropriate task or person for the entire 10-second interval. Any instance of inattentive behavior occuring during the interval disqualified the child from receiving a positive task attention rating, and one (and only one) of the inattentive behavior categories was scored instead. That is, if the child attended to his work for a full 10 seconds, he was given one positive task attention score. If, on the other hand, he attended for three seconds, and then got out of his seat and clung to the teacher, the observer would score that 10 second interval for that child either hyperactivity or clinging, depending on which behavior was of longer duration and intensity. Thus, the observation system led to a conservative estimate of improvement in the classroom behaviors of the children, because it emphasized the inappropriate behaviors, rather than the appropriate ones. Hence, any improvement in the observation scale of positive task attention indicates a marked improvement in the classroom behavior of the child.

TABLE III

Task attention criteria. Eye attention is the primary criterion, but head and body attention are acceptable, subject to specifications listed.

I. Eye attention

Child's eyes must be on task or teacher when:
(A) Teacher talks to class
(B) Teacher gives child rewards
(C) Teacher talks to child individually or helps him
(D) Child does an assignment at his desk

Child's eyes are not to shift to folders, box, etc. during a task unless these are being employed in task.

During task at desk, no loud noises or talking to others, but whispering to self permitted.

II. Head attention

Child's head must be facing task when back turned to observer in study booth or at work centers.

III. Body attention

Child must be sitting in chair quietly
(A) Waiting for teacher
(B) During all other waiting periods, e.g., when finished with task, before recess, or before dismissal

Before one can evaluate any changes on such an observational method of recording, it is necessary to know how reliable the observation method is, that is, whether two persons, using the same scale and rating the same children at the same time, would come up with approximately the same scores for that child. One way of ensuring such reliability is to have the sort of clear and objective definitions of the behaviors to be observed that were used in this program. In addition, the two observers were trained in the use of the observation code until their observations agreed better than 80% of the time.

A conservative method was used for estimating the degree of agreement: agreements were defined as instances in which the same behavioral category was recorded by both observers in the same 10-second observation interval. That is, agreements were counted only when both observers marked the same category at the same time; agreements about the non-occurrence of behaviors were not counted--these incorrectly inflate the degree of agreement, if included. The average reliability found for five different observation sessions was 89%, with a range from 83% to 97%. This amount of agreement is comparable to that generally accepted by persons who work with this sort of observational method.

Results

As noted above, the children assigned to this classroom were seriously handicapped, severely mentally retarded children, who had been unable to participate in the regular classroom program for severely mentally retarded children, because of their lack of toilet training or because of severe hyperactive behavior. One significant result of this program is that all the children were toilet-trained quickly, and, according to the Program Coordinator, with no problems. As the lack of toilet training was one of the main reasons why these children were denied the regular classroom programs for severely mentally retarded children, this accomplishment alone will have significant results for the future education of these children.

The TMR Performance Profile data, which it had been hoped would be another way to evaluate the effects of the program, were, as discussed in detail above, disappointing, in that the design did not enable a detailed statistical evaluation of the progress of specific children, other than the ranking of the children's relative improvement, and the indication that they tended to improve on the areas to which the most attention was given in the classroom.

However, although definitive conclusions cannot be drawn on the basis of the TMR Profile data, the classroom atmosphere was clearly improved over the course of the year. My observations in the classroom indicate that the classroom atmosphere reflects the successful use of procedures and principles emphasizing success and reward. The children sit in their seats much of the time, as the teacher and the teacher's

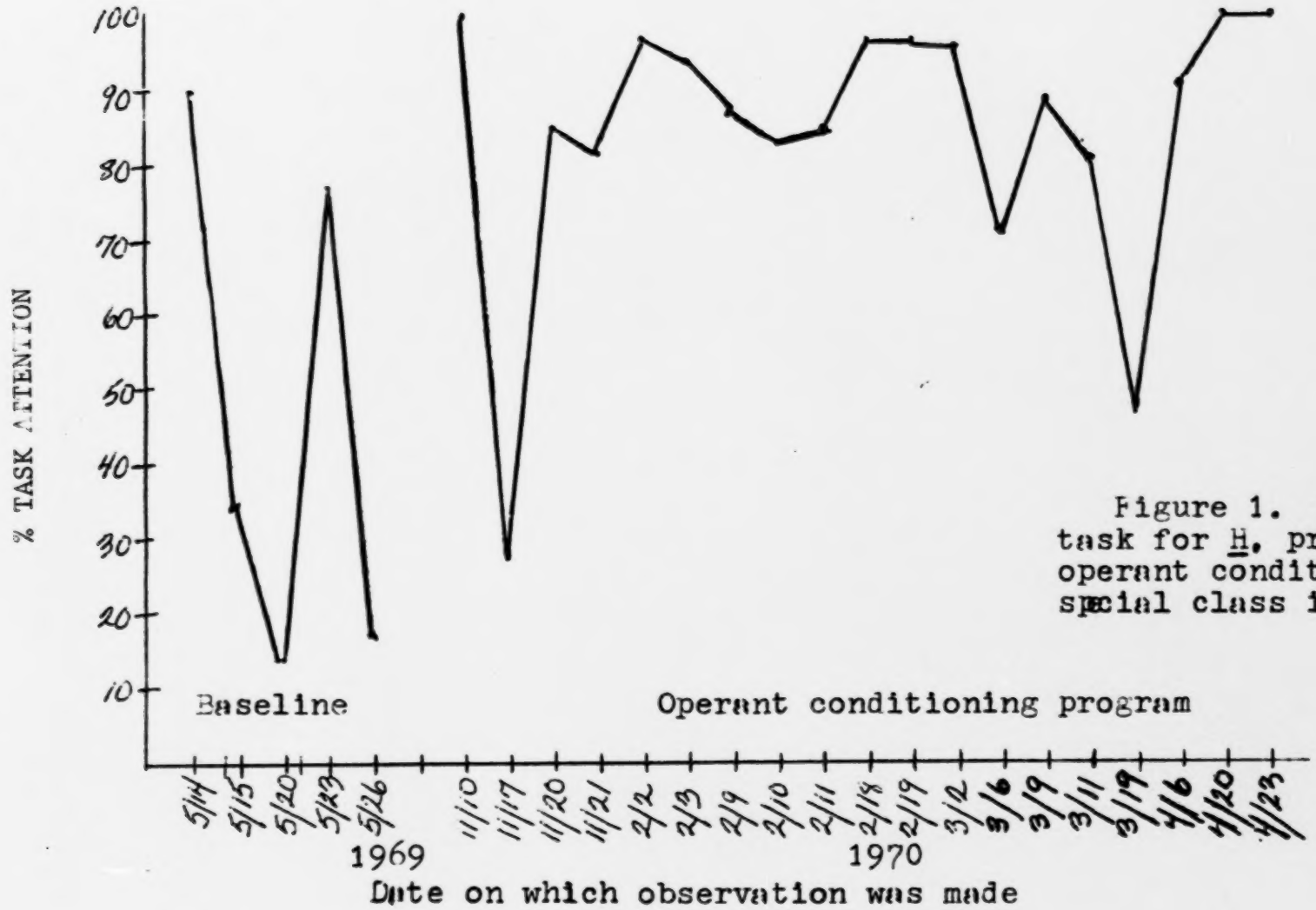


Figure 1. Amount of attention to task for H. prior to and during the operant conditioning program in the special class in adaptive behavior.

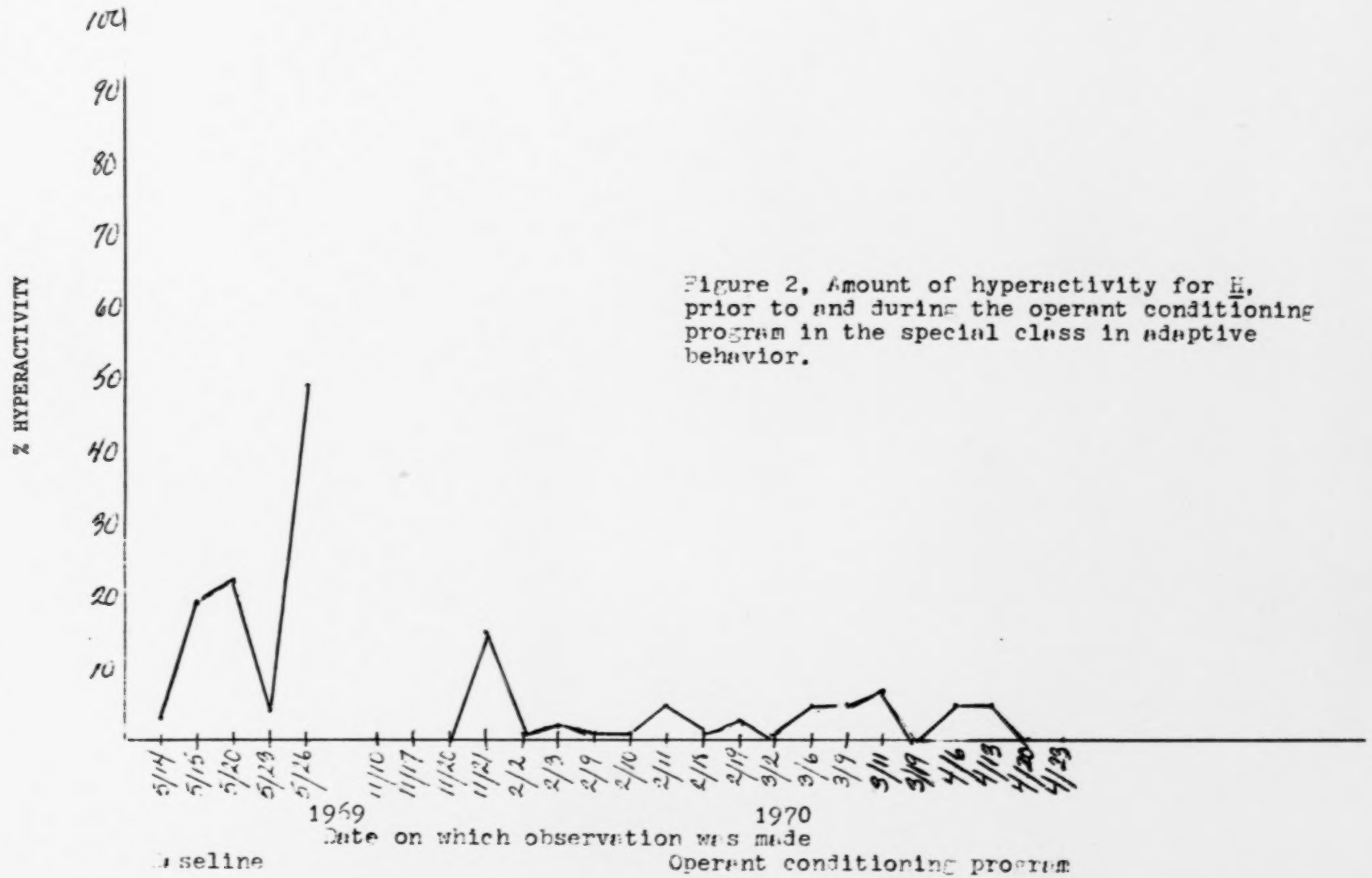


Figure 2, Amount of hyperactivity for H. prior to and during the operant conditioning program in the special class in adaptive behavior.

aide circulate about the room, giving children materials and working briefly with them. The main sounds to be heard are the instructions to the children, and the enthusiastic praise of the adults as a child succeeded in accomplishing another new step. Working in this atmosphere of success and positive attention, the children seem happy, quiet and attentive to their work. Though detailed quantitative support for these generalizations is lacking, I feel the qualitative changes observed were considerable.

Results from Observations These qualitative observations are supported by the quantitative results from the daily classroom observations. Based upon the graphs included in this report, I am able to make some conclusions regarding the changes which have occurred in the children in the program.

H. was the boy who had been hyperactive at the beginning of the program, and whose attention to the school work varied considerably from day to day, being undesirably low on many days (see Figures 1 and 2). For this boy, the program in the special class in adaptive behavior resulted in a marked improvement. With the introduction of the operant conditioning program in which H. was rewarded only when he was oriented toward the task, and in which he was ignored when he was out of his seat, his hyperactivity essentially disappeared (see Figure 2) dropping from an initial range of from 5% to 50%, to a range of from 0 to 5% on the whole, with only one day early in the program on which he was scored hyperactive as much as 15% of the intervals recorded, and a single day later with a 7% score. The "bad days" in which H. was very seldom attending to the task disappeared with the operant conditioning program, so that after the program had been in effect for a while, he scored lower than 70% task-attentive on only one day, and generally was attending to the task on between 80% and 100% of the intervals recorded. This amount of attention to the classroom tasks would be considered excellent performance in any classroom, particularly when it is noted how strict the task-attention criterion is in this scoring system. H.'s high proportion of attention to the assigned tasks may help to explain why he showed the greatest improvement of all the children on the TMR Scales. Since he was attending to the tasks, he had the opportunity to perform them, to be rewarded for performing correctly, and to improve his skills. The improvement shown in the classroom was apparently generalized to his home, as H.'s mother gave a very favorable report, when questioned by the project staff. She mentioned these specific improvements:

> H. is more active. He is not afraid of strange places, and is more outgoing. He plays with other children. Can write his name, writes numbers. He is talking much more. He can make his own sandwiches, and cleans up after a meal. He helps around the house, such as setting the table. He can dress himself. Talks on the phone. H. follows directions.

K. is the girl who, at the start of the program, often clung to adults inappropriately, and, at other times, shut everything out by putting her hands over her ears. Figures 3 and 4 present the observational data for this girl, and clearly reveal that a great deal of improvement has occurred in the course of the program. As in the preceding

Figure 3. Amount of attention to task for K, prior to and during the operant conditioning program in the special class in adaptive behaviour.

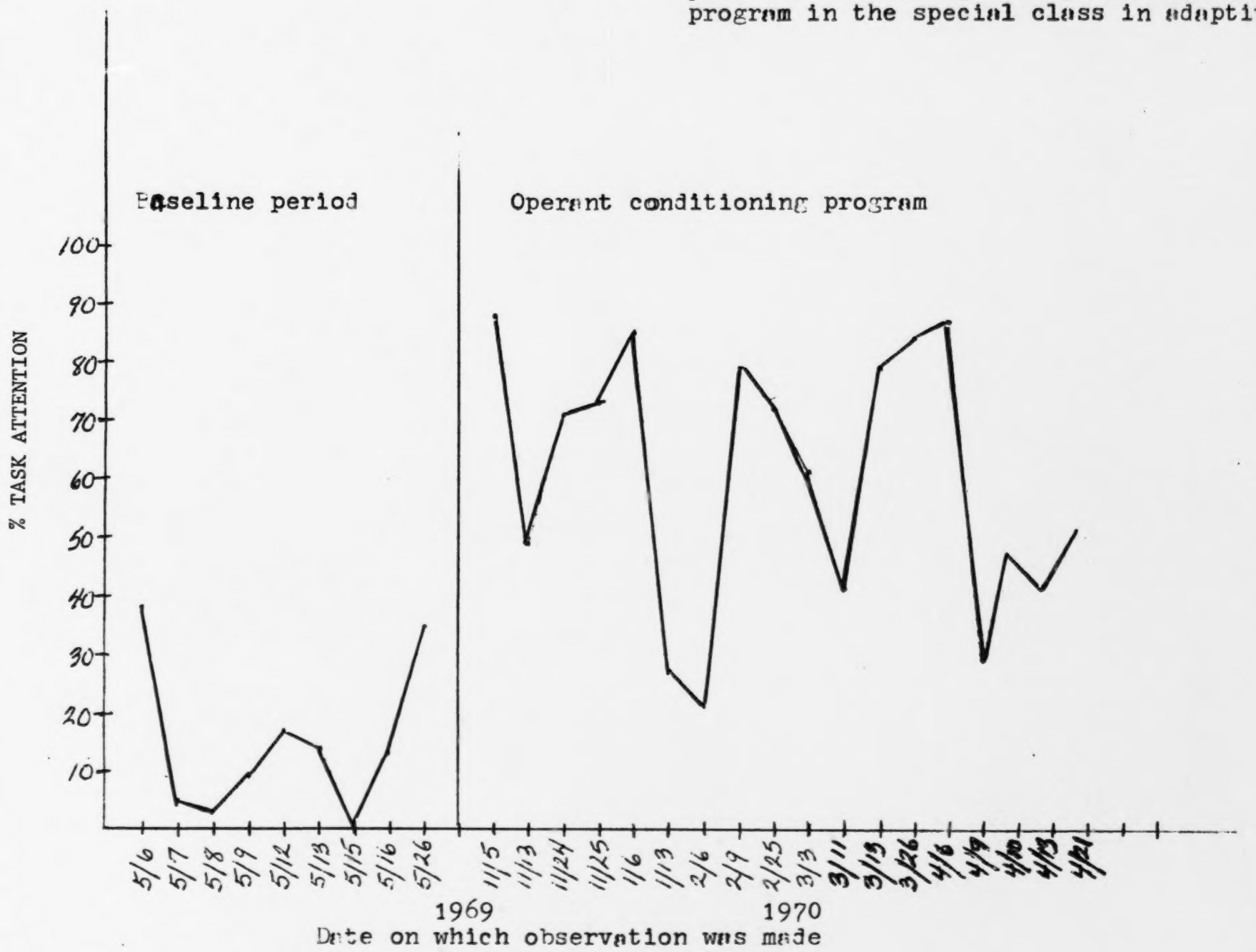
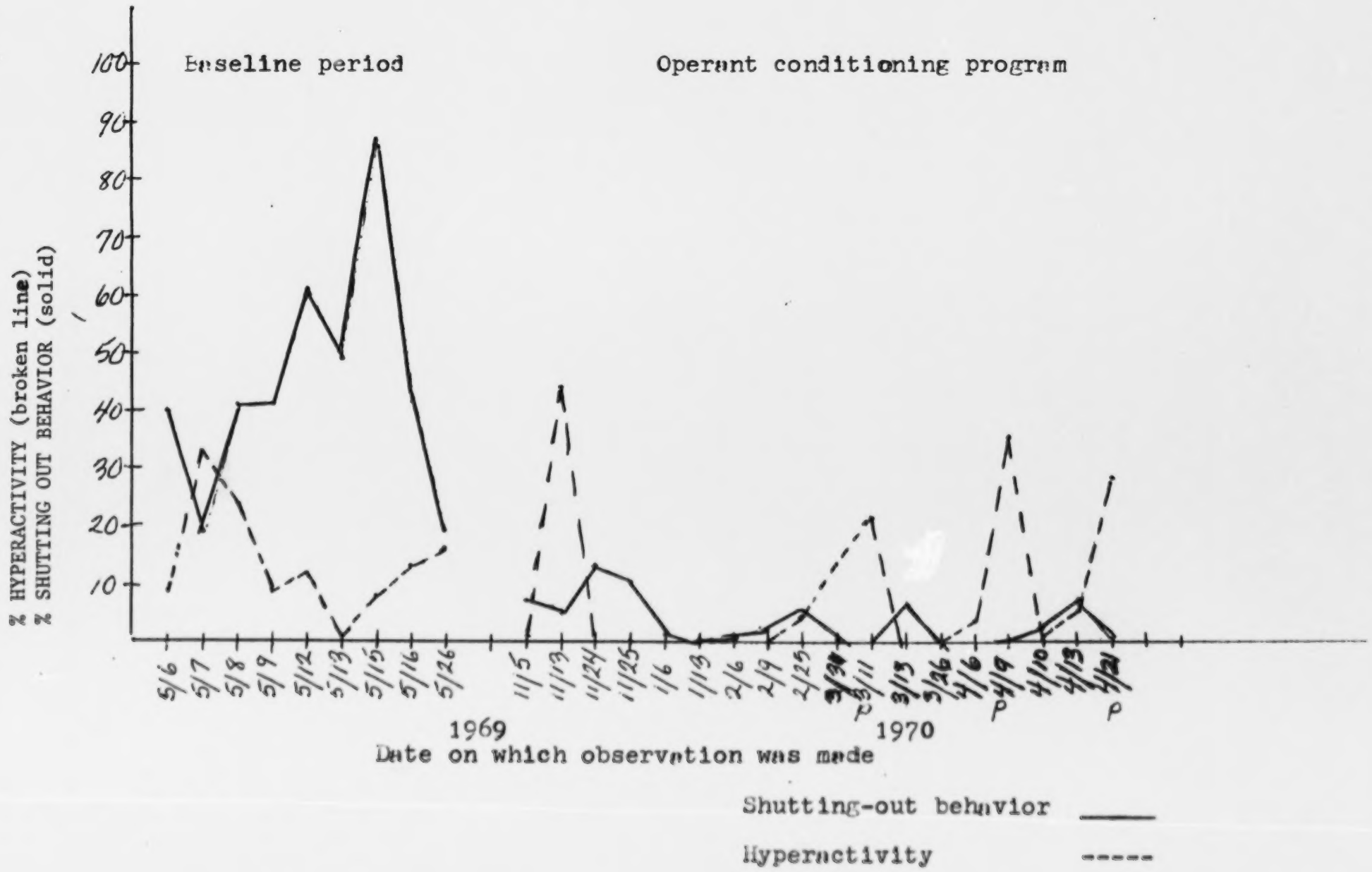


Figure 4. Amount of hyperactivity and shutting-out behavior for K, prior to and during the operant conditioning program in the special class in adaptive behavior.



figures, the initial group of observations, made in May, 1969, are prior to the initiation of the operant conditioning procedures in the classroom, while the right-hand sie of the figures represents observations made while the operant conditioning program was in effect. Prior to the initiation of the new procedures, K. attended to the task about 15% of the time, on the average, spent a large amount of her time out of her seat, and also had her hands over her ears about 15% of the time. In the operant conditioning program, K. could receive praise, rewards, and attention only when she was oriented toward her task. When she was out of her seat, no one paid any attention to her any longer. Figure 3 shows a large increase in task attention which was maintained through the operant conditioning program, so that she attended, on the average, somewhere between 40% and 80% of the time. The shutting-out behavior almost completely disappeared (see Figure 4), and while the hyperactivity did not disappear, it became an unusual event. Figure 4 shows that K. was noticeably hyperactive on only five of 18 observation days during the operant conditioning program, in contrast to perhaps eight of nine days prior to the start of the program. Like H., K. showed a marked improvement in TMR Performance Scale score. Again, it can be speculated that this was a result of her increased availability to the teacher which was a consequence of the decrease in hyperactivity and in shutting out and the increase in task attention. Once she was attending to the task and not running around or shutting out the world, she could then begin to learn the new skills whose acquisition is reflected in the improved TMR scores.

C., E., and G. all showed moderate amounts of improvement on the TMR Performance Scale. The comparison of C. and E. is particularly interesting, because the same relative amount of improvement on that test reflected quite different performances by the two children. As noted above, no observational data are available for G., so his TMR scores will not be discussed again at this point. Figures 5 and 6 show the observational records for task attention for C. and for E. Note that C. shows a marked improvement under the operant conditioning program, while E. shows essentially no change. Prior to the introduction of the operant conditioning program, C.'s task attention was quite variable, but averaged a little better than 50%. After the operant conditioning program had been in effect for some time, C. attended to the task 80% or more of the time consistently, with the exception of a single day on which only 70% task attention was recorded. On the last two days on which she was observed, C. attended to the task 95% or more of the time, surely an outstanding record for a child in any type of classroom. E.'s attention to the task, in contrast, was quite variable, and showed no consistent change in relationship to the change in procedures in the classroom. Both these children's TMR Scores increased about a half scale score on the average. However, it should be noted that C.'s score increased from 1.0 to 1.7, so that her final average was a low "limited acceptable" one. On several scales, her behavior was rated much better than that. On the other hand, E.'s scores increased from .6 to only 1.1, so that her final performance, as measured by this test, was minimal. Thus, again it appears that the TMR data and the observational data lead one to arrive at approximately the same conclusions, in this case, that C. was noticeably improved during the course of the program, while E.'s behavior did not reach even a level of limited acceptability during the school year.

Figure 5. Amount of attention to task for C, prior to and during the operant conditioning program in the special class in adaptive behavior.

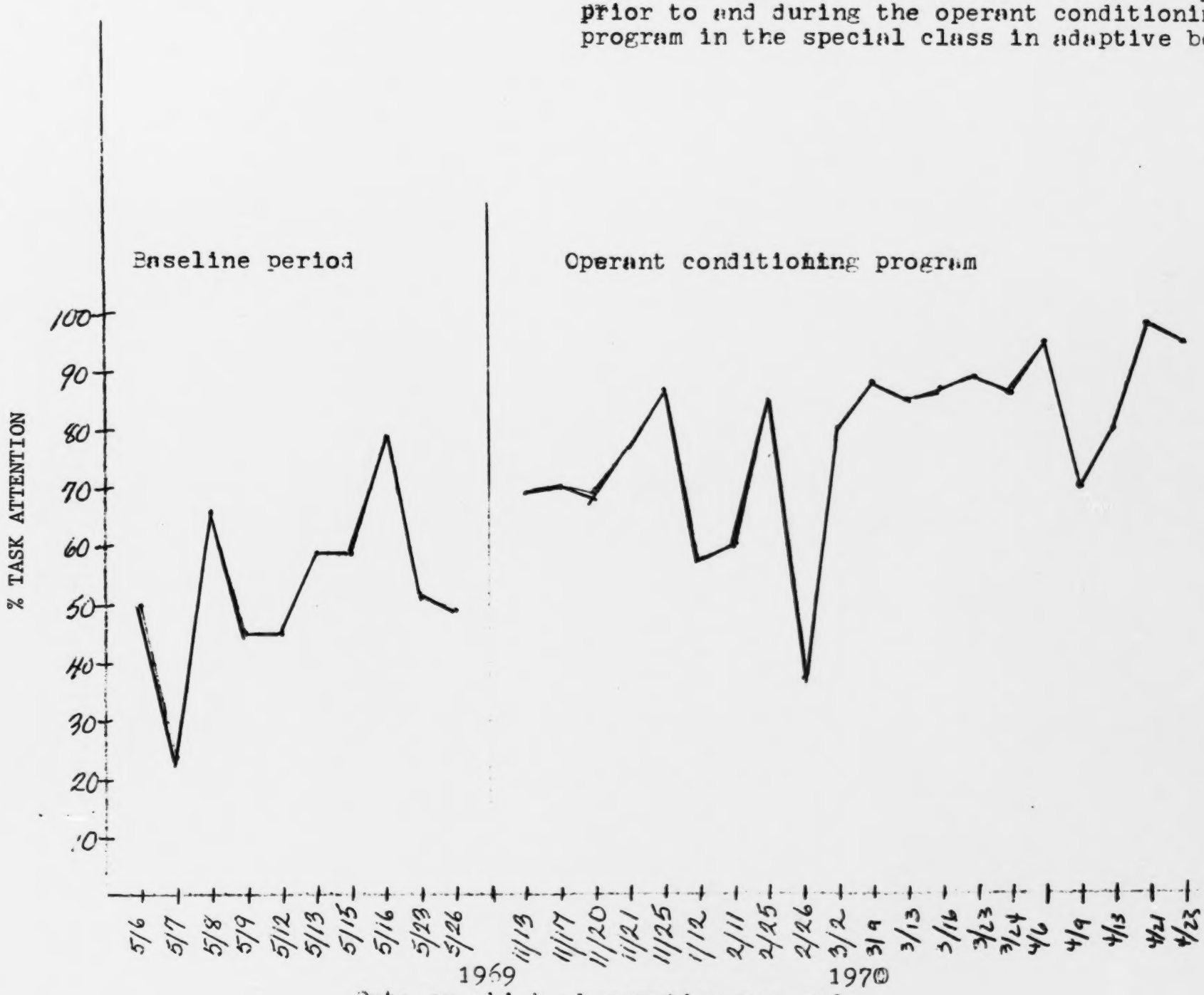
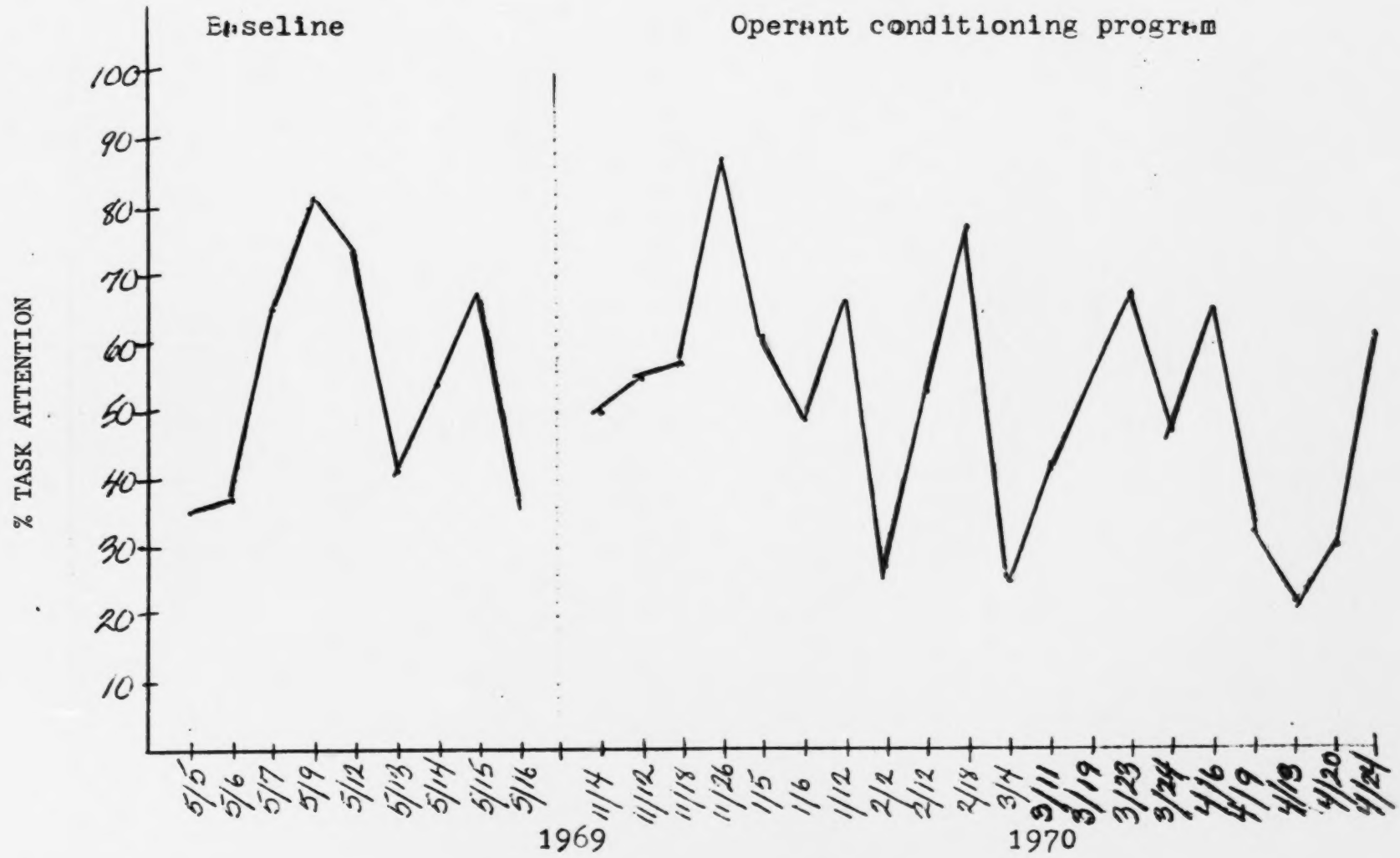


Figure 6. Amount of attention to task for E, prior to and during the operant conditioning program in the special class in adaptive behavior.

165



The Program Coordinator noted, in his discussion with me, that E. did not seem interested in any of the snack rewards which were available through the program. The fact that a child who does not like to eat the particular snacks offered also is the one showing the least improvement with the program is important. This suggests that the food rewards might be a more important part of the procedure as it is now constituted than the praise from the teachers. Those children who are rewarded by candies and sweetened cereals show improved appropriate behaviors and decreased inappropriate behaviors, while a child known not to like such rewards shows little improvement. Since this child is not, in a real sense, participating in the operant conditioning program (because she is apparently not rewarded by the system), it is perhaps no surprise that she did not improve.

The reports from the children's parents support the generalization we have just made. C.'s mother said that C.'s behavior was much improved at home. She was not as hyperactive, was more calm, and spoke more and better than she had. E.'s mother, in contrast, said that E. showed no particular improvement compared with what she could do before she was sent to this new program.

The final child in this program is R., the boy with Hurler's syndrome and severe hearing loss. At the start of the program, he spent much of the time making inappropriate noises, which were separately scored by the observers as "verbalizations." His hearing difficulty made the task of working with him particularly difficult for the teacher and the teacher's aide, who had no special training in working with children with hearing loss. However, despite this difficulty, they were able to produce a marked increase in R.'s attention to his schoolwork, soon after the initiation of the operant conditioning reward procedures (see Figure 7). Unfortunately, as the year passed, R.'s disease began to take an increasing toll, so that he had increasing trouble with both large and small muscle movements. It may be this, which made it ever more difficult for him to succeed in his school work, which resulted in his increasing inattention to the school work at the end of the year. However, the decrease in the extent to which he vocalized inappropriately which occurred did continue to the end of the school year. (see Figure 8) The teacher and the teacher's aide worked to obtain this decrease by trying to attend to R only when he was not inappropriately vocalizing. If R was rewarded by the teacher's attention, as well as by the candy, these results would make sense; by not vocalizing, he was able to maintain the attention of the teacher, however, as he was not physically capable of succeeding in the school work, he collected no or few rewards from attending to the task. This would result in decreased vocalizations accompanied by decreased task attention, which is what was observed. R.'s performance as rated on the TMR was only a trace above a total rating of "non-performance," and essentially no change was shown between the two testings; this is consistent with the classroom observations.

Return to regular classes. One of the criteria for the success of the operant conditioning program in the special class in adaptive behavior is whether the children training in the program will be able to be returned to regular classrooms for severely mentally retarded children, and

Figure 7. Amount of attention to task for R, prior to and during the operant conditioning program in the special class in adaptive behavior.

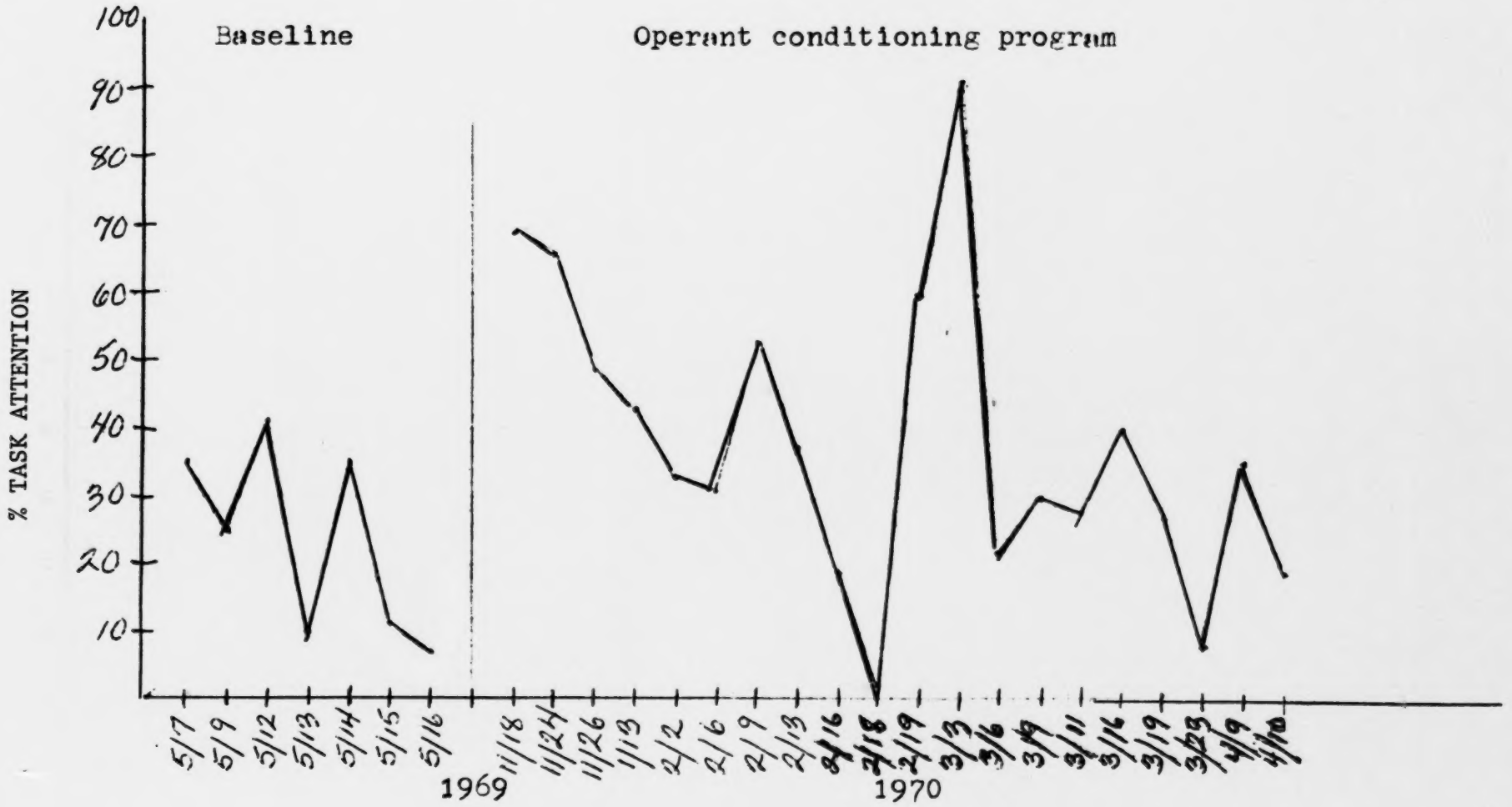
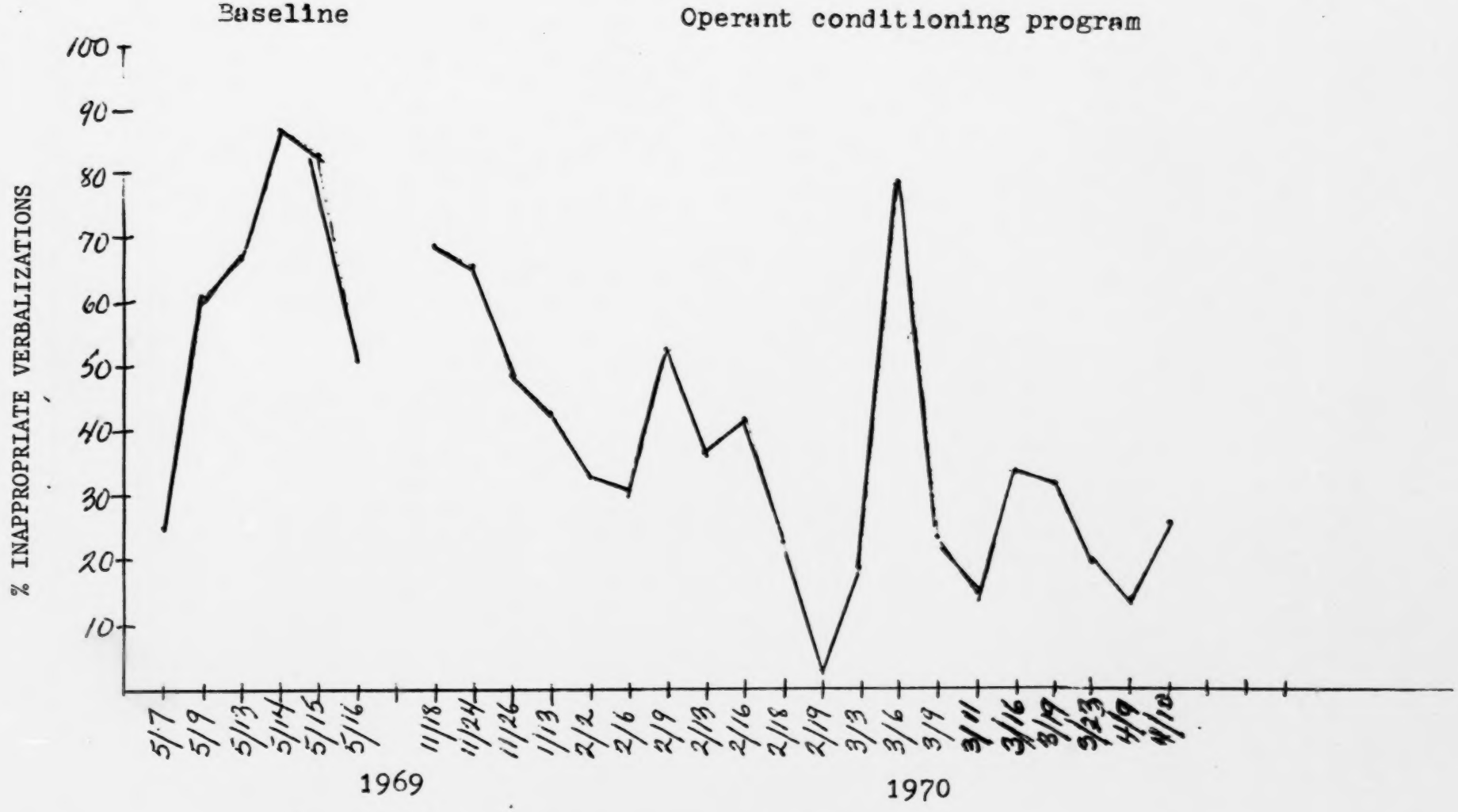


Figure 8. Amount of inppppropriate verbalization by R, prior to and during the operant conditioning program in the special class in adaptive behavior.



will be able to stay and participate in the programs of those rooms. In the opinion of those persons working with the children, and in my opinion based on my observations in the classroom, nearly all of the children in the program are capable of participating in regular classrooms for severely mentally retarded children. One of the children, R, could not be so "promoted," as he is classified as profoundly retarded, so he would not be appropriate in a room for the severely mentally retarded, even if his social behavior might enable him to stay in the room.

Summary of evaluation of classroom program

I believe it is clear from what has preceeded that the special class in adaptive behavior has been highly successful in meeting the five objectives related to the classroom program: training and instruction has been provided for severely mentally retarded children not in the regular classrooms for such children, a start has been made developing methods for instructing these children, methods which are geared to meet each child's individual needs. It appears that most of the children will be ready to turn to the mainstream of public education. In addition, a systematic analysis of the behavioral repetoire for each child was made, as proposed, and the operant conditioning procedures in the classroom resulted in most of the children making at least some improvement as reflected in the quantitative data, while some of the children made significant improvements as measured quantitatively. In addition, the qualitative change in all of the children was in the direction of a marked improvement.

Teacher Training

One of the original goals of this program was "to program the methodology so that following the period of the project it can be applied by any teacher of a SMR class so that segregation of the child with special problems become (sic) unnecessary." This has several aspects: first, that the methodology should be such that any teacher could use it, and second, that the methodology should be taught to some teachers not involved in the program, so that they can try it out in their own classes of severely mentally retarded children.

With regard to the first aspect, that any teacher should be able to use this method, it appeared from my observations in the special classroom that no skills were used by the teacher and the teacher's aide in the program other than those which any teacher of the severely mentally retarded would have. The most distinctive aspect of the behavior of the teacher and the teacher's aide was the extent to which they praised their students for very small improvements in behavior. This type of enthusiasm is not typically found in classrooms. However, with training, any teacher should be able to learn to do this.

The training program which will be used to train other teachers in such skills has been outlined by the Program Coordinator. Teachers will read a programmed text on the use of operant techniques with children, Living with Children, by Patterson and Gullion, and also read a handbook

edited by Bensberg, called Teaching the Mentally Retarded. Both books emphasize operant conditioning procedures and training with rewards. In addition they will see a film developed to accompany the handbook, also called, "Teaching the Mentally Retarded." The teachers will be instructed in the classroom use of skill hierarchies, given special training in objective observation of behavior, and then given supervised practice in the use of rewards in teaching severely mentally retarded children.

This training program seems quite suitable. None of the materials to be used is difficult, so that persons with only a high school education should be able to read and understand the books. Unfortunately as a result of administrative difficulties it was not possible for teacher training to be carried out this year, other than with the teacher and the teacher's aide specifically involved in the special class in adaptive behavior. As far as I can determine, this is the only portion of the original objectives as outlined in the proposal which was not carried out at all.

Parent Training

The parent training program utilized the same materials as those planned for use in the teaching training program. The parents were initially given individual conferences, in which their children's problems were discussed. After going through the various reading materials, and seeing the film, the parents were given instruction in observing and recording the behavior of their own children. They were then given special skill hierarchies on which to work in the home. Unfortunately, as a result of a number of problems, this part of the program began very late in the year. The skill hierarchies for the classroom were developed prior to discussing the children with the parents, a reasonable if time-consuming order in which to proceed. In addition, the Educational Specialist, who was to work with the parents, was required to spend a considerable amount of time on another project (DIAL), so that it was not until the spring that he had the time available to work with the parents. As a result, he had an insufficient amount of time in which to develop any sort of relationship with the parents, or, in operant conditioning terms, he was unable to establish himself as a reinforcer, and, in addition, he had no other types of rewards to offer the parents. Lacking motivation, their participation was only minimal, and this part of the program cannot be counted a success.

New Insights

I questioned the Program Coordinator as to whether he had obtained any new insights into working with the mentally retarded as a result of this particular program. His response was mainly directed toward the classification and selection of the children. As a result of seeing the amount of progress the children were able to make in this program, in which the emphasis was on change in specific behavioral skills, he feels that classrooms for severely mentally retarded children should be graded in some way, based on the behavioral capabilities of the children. Rather

than the present system, in which a child is assigned to a given classroom, and then stays for the rest of his academic career in that classroom, he recommends that several behavioral levels be established, so that the child could be promoted, on the basis of the amount of behavior change which he shows.

This is related to the question of the classification of the children originally assigned to the special class in adaptive behavior. Apparently, the primary criterion for selection was that the children not be toilet trained. No consistent educational criterion could have been used, because while most of the children were severely mentally retarded, one of them was profoundly retarded, and hearing-disabled as well. Thus, the Program Coordinator concluded on the basis of his experience with the operant training program that more consistent evaluative procedures, classrooms which also were directed toward specific behavioral improvement, would be better for the children.

Future Plans

Dissemination of results

The Program Coordinator plans upon approval of the Director of Special Education to publish the results of this project in the special class in adaptive behavior either in Exceptional Children, or in the NEA journal. These are both appropriate journals for such material, in my opinion.

Next year's program

Based on the success of the special class in adaptive behavior this year, the Program Coordinator has proposed a larger program for next year. This proposed program would evaluate the existing programs for the severely mentally retarded, in conjunction with the operant conditioning program, which would be run on a larger scale. In addition, other factors which would be evaluated would be the effect of the addition of teacher's aides, and the effect of upgraded academic requirements in the area of mental retardation, for teachers in classrooms for the severely mentally retarded. Thus, the proposed program would evaluate the relative improvements in the behavioral, social, and academic performance of severely mentally retarded children in classrooms with and without operant conditioning programs, with and without teacher's aides, and with and without teachers who have met ungraded academic requirements in the area of mental retardation. In addition, the parent-training program would continue and be expanded to include more parents.

In order to investigate these various factors, a 2x2x2 design has been proposed, in which the variables are as outlined above, that is, (a) academic requirements: either 9 hours or more in the area of mental retardation, or 8 hours of fewer in that area; (b) teacher's aide: either an aide is included in the classroom or one is not included; and (c) special training: either the teacher is trained in operant conditioning procedures, or she receives general training in various administrative

matters of importance to teachers of severely mentally retarded children. With a total of 16 rooms participating in the program, it is possible to have two rooms on each of the eight different possible combinations of these three variables.

The measures which will be made of the children will include the TMR Performance Profile, both at the beginning and the end of the school year, the observation records of task attention made in the classroom, and other diagnostic instruments which yield objective scores. In order to obtain objective TMR Performance Profile scores, special research assistants will be hired to administer these tests. This relieves the teachers of the necessity of learning to score the test, and also has the advantage that the teachers are not involved in scoring their own progress at the end of the school year. As noted above, the inclusion of classrooms which do not have the operant conditioning program is essential for the evaluation of the changes on the TMR Performance Profile. Such comparison groups will enable an estimate of the amount of change to be expected in that test when a child spends a year in a different sort of program from the operant conditioning program.

Evaluation. This design is clearly formulated, and should enable an evaluation of the three variables which are under study. The results with respect to each of these variables will have important implications for programs for severely mentally retarded children. Two factors are particularly crucial for the success of this research design: first, a sufficient number of assistants should be made available so that the observational records can be collected in the classroom during the year, and second, sufficient supervisory personnel should be available so that both the operant training and the general training can be done adequately, with an adequate amount of supervision of the teachers in the classrooms as well, to ensure that they are carrying out the procedures they have been taught. With that type of support, the results from this project should be of interest to the educational community as a whole.

Summary of My Evaluation

My evaluation of the special class in adaptive behavior for severely mentally retarded children, is very positive, based on the pleasant atmosphere of the classroom, on the observational records indicating, on the whole, large amounts of improvement shown by most of the children, and on the over-all tendency for the children's scores to increase on the TMR Performance Profile. These achievements are particularly impressive for two reasons: first, the children included in the program were selected from those who have been completely excluded from the regular educational system, including from classes for the severely mentally retarded, because of their various problems. Second, the improvement I have discussed was obtained even though the children were only in contact with the program during the school day. Many other programs with children such as these have required the children to live in an institution, so that 24 hour-a-day control of their lives would be possible. The special class in

adaptive behavior has been able to achieve improvements in the children's behavioral, social, and academic behaviors without requiring this sort of total control.

Submitted by:

Stephanie B. Stolz, Ph.D.
Assistant Professor of Behavioral Analysis, Dept. of Psychiatry, The John Hopkins University School of Medicine, and
Chief, Small Grants Section National Institute of Mental Health.

July 1, 1970

APPENDIX

Skill hierarchies that were developed for four of the children

12

11

10

9

8

To come when gesture made at a distance of 6 ft.

7

—

To come when gesture made at a distance of 6 ft. and one extended.

6

—

To come at a distance of 5 ft. when gesture made.

5

—

To come at a distance of 5 ft. when gesture made and one hand extended.

4

—

To come when gesture made at a distance of 4 ft.

3

—

To come when gesture made at a distance of 4 ft. and hand extended.

2

4-26-70

To come when teacher makes gesture at a distance of two feet and pulled by teacher.

1

4-19-70

Name: R

Task: Social Behavior

To come to teacher when appropriate gesture is made.

12

11

10

9

8

7

6

To come to the teacher when called gradually moving further away until the distance between teacher and child no longer is significant to proper responding.

5

To come to the teacher when called from a distance of 4 ft.

4

5-12-70

To come to the teacher when called by the teacher from a distance of 3 ft., (helped by teacher if necessary).

3

4-30-70

2

4-23-70

To come to the teacher when called from a distance of 2 ft. and pulled by the teacher.

1

4-19-70

Name: C

Task: Social Behavior

To come to the teacher when she is called

12

11

Place coat on hook in down and back motion

10

3-23-70

Raise coat collar above hook

9

3-16-70

Turn coat so that inside is facing hook

8

3-16-70

Grasp coat by collar - both hands

7

3-9-70

All buttons buttoned; child unbuttons each one by pushing buttons through hol

6

3-2-70

All but last 3 buttons unbuttoned
Starting at bottom, push each button thru hole

5

2-26-70

Push bottom button through hole, then next button

4

2-19-70

Have all but last 2 buttons unbuttoned
Hold child's hand on bottom button in hole

3

2-12-70

Push bottom button through hole

2

2-5-70

All buttons unbuttoned except last one
Hold child's hand on bottom button in hole

1

1-29-70

Name: E

Task: Self-Care, Unbuttoning and hanging coat

12

To catch a ball thrown directly to him at a distance of 7 feet.

11

—

To catch a bounced ball thrown directly to him from a distance of 7 feet.

10

3-16-70

To catch a rolled ball thrown directly to him from a distance of 7 feet.

9

3-16-70

To catch a ball thrown directly to him from a distance of 6 feet.

8

—

To catch a ball bounced directly to him from a distance of 6 feet.

7

3-16-70

To catch a ball rolled to him from a distance of six feet.

6

3-16-70

To catch a ball thrown directly to him from a distance of 5 feet.

5

3-16-70

To catch a ball bounced directly to him from a distance of 5 feet.

4

3-9-70

To catch a ball thrown directly at him from a distance of 4 ft. (consistently)

3

3-2-70

To catch a ball bounced directly to him from a distance of 4 feet.

2

2-25-70

To catch a ball thrown directly at him at a distance of three feet.

1

2-18-70

Name: H

Task: Body Usage

To catch a ball thrown directly at him from a distance of ten feet.

Final Evaluation Report

ESEA Title III Special Education Project

Comprehensive Education for Multiply-Handicapped Deaf Children

Prepared by: Dr. Thomas R. Brehens
Director, Kendall School for
the Deaf

Project Summary

Title: Comprehensive Education for Multiply-Handicapped Deaf Children

Group Served: Multiply-Handicapped Deaf Children

Project Location: Kendall School for the Deaf
Gallaudet College

Title III Funds Allocated: $22,319

Number of Children Served: 30

Background and Rationale:

Kendall School for the Deaf has previously initiated various attempts within the regular school program to improve the educational experiences of multiply-handicapped deaf children. The attempts were not consistently successful primarily because the approach used was similar to that used with children who were deaf only; multiply-handicapped children had other disabiling handicaps that impeded their progress.

Because the school was equipped with modern educational facilities and thirty children defined as multiply-handicapped deaf children were already enrolled, a new attempt was made to meet the needs of these children. A comprehensive program was designed that emphasized the development of curriculum guidelines, the involvement of parents in educational remediation, and the utilization of physical therapy and therapeutic recreation.

Project Objectives:

1. To conduct a pilot program in the development of curriculum guidelines for the multiply-handicapped child.

2. To develop close coordination between children's homes and the school to help facilitate communication between parents and teachers, to implement teachers' recommendations for educational activities in the home and to improve communication between parents and their children.

3. To improve the coordination and body movement skill of the children, particularly those with cerebral palsy involvement, through the utilization of physical therapy.

Project Methodology:

To meet the first objective, an educational specialist was hired to assist in developing guidelines for a curriculum. She subsequently collated data and materials into a sequential language curriculum.

Objective two was met through the utilization of a person with experience in education of the deaf, social work and counseling. The activities involved working with area health and welfare agencies, and with parents and teachers in coordinating home-school relationships.

Upon the advice of a physical therapist, the third objective was met through the resources of Kendall School's Physical Education and Eurhythmics Departments which planned and organized the necessary physical activities for the children.

A delay in formal approval of the project was off-set by the willingness of the director and staff to begin the major aspects of the program prior to funding. Three phases of pilot investigations were undertaken to determine the best means of fulfilling the project objectives. The findings of these preliminary investigations were incorporated into the program when it officially began.

Evaluation Plan:

Phase I - Development of Curriculum Guidelines

Continuous evaluations were made throughout the implementation of each phase of the program. Classroom activity was monitored by the language specialist; documentation of data and materials were made; and revisions of beginning curriculum guidelines were made by the staff and the specialist. A staff member from the Division of Planning, Innovation and Research, Department of Research and Evaluation made several visits to the class.

Following several revisions in the program, two new approaches emerged. The first was the "Natural Language Approach," a concept that the child possesses an "inner language" consisting of ideas which he can convey to others although he lacks the standard communication skills. The second approach was the use of Paul Roberts' Patterns of English (Teachers' Edition, Harcourt, Brace and World, Inc., New York: (1936).

Phase II - Social Work

The project director indicates that this aspect of the program was difficult to evaluate objectively, however, the social worker did visit the classes, got to know the teachers and students, read folders of the children, conferred with teachers and parents, organized a parent education group, and arranged appointments with health agencies for the children.

Phase III - Physical Therapy and Eurhythmics

The physical needs of the children were assessed by the staff of the physical education and eurhythmics departments. The types of handicaps of these children resulted in the majority performing at a high level in one pattern and at a very low level in another. Some of the children were placed in a rotating program because of behavior, and social interaction was the common denominator for achievement.

At the completion of the program, evaluators who had had no previous involvement with the program supplemented the continuous assessment of the program by rating the academic program of the 34 children on a 1 to 9 point scale, indicating "poor" to "very superior". Using teacher reports on each child, the evaluators compiled grade point averages for each child

in Language, Reading and General Academic Performance. The two scores, one reflecting 1969 achievement and one 1970 achievement, were compared to ascertain the degree of progress made by each individual. Also a comparison was made of grade equivalency scores of each student on the Metropolitan Achievement Test given in May, 1969, and May, 1970.

Results:

Sequential language curriculum guidelines and classroom materials for teaching were developed for multiply-handicapped children. Home-school communication was significant and future attempts will be made to incorporate the social work program into the regular school plan. The students benefited from the physical therapy and Eurhythmics program in both motor skill development and social interaction.

Consultant's Comments and Recommendations:

General and subjective opinions, and data collected indicate that the program met with some success in all areas of concern. There were, however, some students who according to data show "no progress", and have not been reached to any measurable degree, but the belief is that the trend is toward positive academic growth.

Abstract

Final Evaluation Report

Title: Comprehensive Education for Multiply-Handicapped Deaf Children

Background and Purpose:

In the past several years, Kendall School has initiated various efforts within the regular school program to improve the educational experiences of the multiply-handicapped deaf children. Inadequate curriculum guidelines, a lack of clear communication, and insufficient information between home and school have limited the success of these efforts.

Capitalizing upon past experiences, Kendall School developed a comprehensive approach to meet the needs of multiply-handicapped deaf children. The plan emphasized: initial development of curriculum guidelines to standardize the educational process for the children, involvement of the home in educational remediation, and the utilization of physical therapy and therapeutic recreation.

Director: Dr. Thomas R. Behrens

Location: Kendall School on Gallaudett College Campus

Date: March, 1969 - June, 1969

Target Population: 30 multiply-handicapped children - ages from 5-10 years.

Staff: 1 Director, 1 Educational Specialist, 1 Social Worker, 1 Physical Therapist, 1 Speech Therapist, 1 Language Therapist, and 6 Classroom Teachers.

Cost: $22,319

FINAL REPORT

TITLE III PROJECT

COMPREHENSIVE EDUCATION

FOR MULTIPLY-HANDICAPPED DEAF CHILDREN

Submitted by:
Thomas R. Behrens, Ph.D.
Project Director
Professor of Education
Director, The Kendall School
Kendall School for the Deaf
Gallaudet College
Washington, D. C. 20002

I. Background and Need for the Project

The proposal for this project originated out of a desperate need. Provisions and educational programming for the multiply-handicapped deaf child have been approximately the same as for the average deaf child. The provisions included a classroom, desks, and a teacher for six or seven children; the educational programming included the same language stimulation, speech training, and overall approach as for the normal deaf child. It became obvious that the educational needs of multiply-handicapped deaf children were neither fully identified nor fully met. The primary purpose of this pilot project, therefore, was to attempt new approaches to solving the educational problems presented by these children.

There are numerous clinical definitions of the multiply-handicapped deaf child. These include the following:

a. mentally retarded deaf
b. orthopedically handicapped deaf
c. emotionally disturbed deaf
d. perceptually handicapped deaf
e. any combination of the above handicaps in addition to deafness.

For the teacher, however, a multiply-handicapped deaf child is a child who has severe adjustment problems in addition to his hearing impairment. It may be a child who without any apparent reason throws a desk at the teacher, who may reject any interaction which requires attention, and/or who may run away from the learning situation and because of the hearing loss cannot be reconciled or reached. It is usually a child who interacts with others only through gesture because he has no expressive or receptive verbal language whatsoever.

As indicated in our proposal, various methods of behavior modification have been used in order to prepare the child for the learning situation. For two major reasons, these were not significantly helpful to the students. First, there was a lack of specific sequential curriculum guidelines available to indicate to the teacher what the child should be taught at times when he was able to participate in classroom activities. Second, it was not feasible to provide the flexibility of needs of a highly diversified population. It was therefore apparent that something new was needed.

II. Chronology

The project was planned for a period of time during which Kendall School had a unique opportunity to hire a highly qualified language specialist and teacher of the deaf with more than ten years of experience. This person was to be available for five or six months, so the pilot project was designed to be in operation from February 1, 1969 through June 30, 1969. Budget and procedures were set up accordingly. Due to numerous delays in the approval procedure, however, the project was not approved until May, 1969, and was not funded until the end of July, 1969.

In various communications with the Title III Office (April 24, Dec. 12, etc.) we indicated our willingness to initiate work on the major aspect of the project (the language curriculum) prior to the formal approval of the project, taking the risk that it might not be funded. This was necessitated by the fact that the language specialist was only available until June 30. We decided to initiate the project ourselves and to divide it into three phases of pilot investigations, to be extended throughout the next school year. The possibility of requesting additional funding was discussed.

Phase I: Pilot program in the development of curriculum guidelines with no cost to the project. (February 1 - June 30, 1969)

1. Continuous monitoring of classroom activity by the language specialist hired for the project during the above period.
2. Documentation and revision of beginning curriculum guidelines. This was conducted by the language specialist in close cooperation with the six classroom teachers.
3. Continous development of language and interest categories by the language specialist in close cooperation with the six classroom teachers.
4. Three visits by a representative of the D. C. Public School System's Division of Planning, Evaluation and Research who was assigned as evaluator to the project.

Phase II: Home-School coordination (January 5 - June 30, 1970)

1. Preliminary assessment of various methods of approach by the social worker of Kendall School with no cost to the project. (September - December, 1969)
2. Initiation of social work-home training phase by the hiring with project funds of a teacher of the deaf with social work experience. (January 5 - June 30, 1970)

Phase III: Physical therapy program (September, 1969 - June, 1970):

1. Assessment of needs by Kendall School staff.
2. Inclusion of these children in the Eurythmics program.
3. Re-evaluation of status of children with the assistance of a Physical Therapy consultant from the D. C. Department of Health.

III. Pilot Project Design Considerations

A number of highly important considerations had to be built into the design and daily operation of the project. Some of these we did not foresee until after the project was underway; others we were able to anticipate and to plan for. These considerations are presented below in outline and descriptive form.

A. Behavior Modification Techniques

As mentioned previously, the behavior modification we had utilized with these students had not provided significant help to them. We drew up the following guidelines for the teachers to utilize in applying these principles in the classrooms:

1. Consistent rewards for positive responses:
   a. candy
   b. physical contact
   c. tokens
2. Reduced attention to bizarre, disruptive behavior.
3. Setting the level of difficulty of the instruction just above the child's "comfort threshold".
4. Tailoring the length and intensity of a "lesson" period to the individual.
5. Providing a "retreat space" for the child who could not cope with the group at any given time.

B. Language Curriculum Guide

It had been determined that the language curriculum being utilized by our normal deaf students was inappropriate for use with the target population. The major objective of the project was therefore to develop a curriculum guide for the language development of these students appropriate to their needs. The following aspects were included:

1. Reading readiness
2. English
3. Speech
4. Auditory training

C. Teacher-Made Materials

The following specifications for teacher-made materials were drawn up to serve as guidelines for teachers to utilize in creating materials:

1. Limiting written seat work to "one task" sheets.
2. Using bold and uncluttered graphics.
3. Controlling the level of difficulty:
   a. building in review
   b. introducing new information
4. Designing materials for individual needs:
   a. bold print
   b. uncluttered pages
   c. wide-spaced lines
   d. tracing sheets
   e. cut and paste sheets

D. Meeting the Physical Therapy and Activity Needs of the Population

It was initially determined to explore the utilization of a Physical Therapist to assist orthopedically handicapped deaf children in our population. We consulted with a Physical Therapist from the D.C. Department of Health, who advised us that our Physical Education and Eurhythmics Departments would be able to do as much for the children as would a Therapist. We therefore asked our Eurhythmics specialist to design a program of Eurhythmics, Movement Education and Movement Skills to meet the physical activity needs of this population. The following list includes the major aspects of that program.

1. Motor patterns
2. Movement exploration
3. Motor learning
4. Motor therapy
5. Movement studies
6. Forms of activities
7. Dance and music
8. Creative drama

E. Designing an Optimally-Equipped Classroom

The following design factors were considered and included in setting up the classrooms for these children:

1. Heavy-duty cardboard seating and plastic Educubes
   a. portable by children
   b. low noise level
   c. multi-level seating
   d. colorful and attractive
2. Kidney-shaped table
   a. brings teacher in closer proximity to students than traditional seating arrangements
      i. physical contact
      ii. rapport
   b. flexible usage
      i. seat work
      ii. games
3. Area carpeting
   a. reduces room noise
   b. play, work or rest area
   c. warmer, more intimate atmosphere

F. Planning for the Utilization of Social Work

The following general outline of responsibilities was established for the social workers

1. Home visits
   a. at teacher request
   b. at parent request

2. Home-School-Agency liaison
   a. housing assistance
   b. para-medical services
      i. eye glasses
      ii. hearing aids
      iii. orthopedic aids
   c. medical services
      i. dental appointments
      ii. medical appointments - routine and special
   d. social welfare
      i. attendance
      ii. clothing
      iii. sitters
      iv. financial aid
3. Parent education
   a. group parent education
   b. individual counseling

IV. Findings: Phase I

Part A - Language Curriculum Guidelines

The results of this phase of the project are presented in the form or curriculum guidelines and sample classroom materials to be used in the development of curricula for multiply-handicapped deaf children. These guidelines were developed through monitoring of classroom activities, documentation and revision of each aspect of this phase, and close coordination between the language specialist and the classroom teachers.

The topics included in the guidelines resulted from the observations by the language specialist that these are the areas with which teachers need the most assistance in the daily classroom routine. The sequence in which the topics are presented is not highly important, but seemed to be logical.

IV. Findings: Phase I

Part B - New Educational Approaches

The curriculum guidelines and materials in the preceeding section were, as mentioned above, developed for the project during the Spring term of 1969. They were utilized and revised as they were written. We were finding, however, that we were still not reaching the students to the limits of their potential. Our research for language curriculum materials led us to two approaches which were introduced to these children during the academic year 1969-70. Information on these approaches is included in this report only as a supplement to indicate the directions in which our investigations for the project have led us.

The first of these two approaches is termed the "Natural Language Approach" to teaching deaf children. It was developed and has been used extensively by Dr. Audrey Simmons of the Central Institute for the Deaf, St. Louis, Missouri. Dr. Simmons is working with Kendall School now as a consultant to our staff members working in this area.

In the academic year 1969-70, we introduced this approach to about forty kindergarten level children who were starting school that year. The underlying concept of the approach is that deaf children possess an "inner language" with which they are able to structure their world and make it comprehensible. They do not, however, possess the standard skills necessary to communicate their thoughts, feelings, etc., to other persons, except through gestures, facial expressions, and other physical means. The process of "natural language" is for the teacher to take the clue which the child gives, provide the child with the language for what he is apparently thinking, and require the child to attempt to give that language back vocally. In other words, the teacher "patterns" for the child.

Initially, the most important productions of the child are approximations of the teacher's intonation, inflection and rhythm. Correct speech articulation is not required, but is desirable when attainable. The objective is to "feed" the child enough repetitions of basic patterns to bring him to the point at which he spontaneously utilizes them.

In addition to the above described forms of patterning, which take place on a minute-to-minute basis as the opportunity arises, teachers write "experience stories" from contrived experiences the classes have had in order to teach beginning word recognition and reading. Sample experiences include field trips to pet shops, zoos, bakeries, fire departments, or cooking at school, nature walks on campus, and other in-school experiences.

The results of one year of experience utilizing this approach are highly encouraging. Children have begun to spontaneously utilize some of the language patterns they have been exposed to, and demonstrate a strong desire to communicate with each other, with teachers, and with other adults.

The second new approach which the project helped us to get into is the Transformational Grammar approach to teaching reading and written language to severely multihandicapped, hearing impaired children, based on Paul Roberts', Patterns of English (Teacher's Edition, Harcourt, Brace and World, Inc., New York: 1956). This was developed and utilized throughout the 1969-70 school year by two of the teachers working with older children in the project.

The program deals primarily with reading and written language. It is an attempt to introduce language principles in steps of increasing difficulty in a highly structured manner. The symbols and sentence patterns are loosely based on the linguistic approach to teaching language presented in Roberts' book. The program was developed for multihandicapped, severely hearing impaired 10 and 11 year old children with a history of school failure. Initial success with one class led to extending the program to another similiar class within the same academic year. The addition of a teacher assistant and the cooperation of another teacher permitted the change from two self-contained classes in the Fall semester to operation on a rotating schedule in the Spring semester. This resulted in three separate homogeneous language groups meeting everyday and permitted extensive development, testing, and evaluation of the program during the academic year.

Description of the Class

Although 12 children from two different classes eventually used this program, it was originally conceived to help fill the language needs of one class consisting of five boys. These 10 and 11 year old boys are severely hearing impaired with additional handicaps such as: cultural deprivation, learning disabilities, emotional problems, and some mental restrdation. All of the boys were serious behavior problems. Each had been in school for four or five years and had made no significant, measurable academic progress.

The language level of the class in general was limited to gestures, facial expressions and a few signs. Reading vocbulary ranged from one or two words to 30 or 40.

Rationale for the Program

The major decisions regarding the shape, direction, and limits of the language program were dictated by primarily two factors: 1) the needs of the class as viewed by the teacher and 2) the linguistic patterning aspects as outlined by Roberts.

It was decided to limit the program to reading and writing instead of spoken language for several reasons: 1) the printed word is stable and is more readily controlled and manipulated; 2) the students in the two classes had failed to develop adequate oral or manual language in the past; 3) Roberts' approach lends itself to written language more readily. A highly structured, sequential schedule was adopted with the objective of exploiting the principles of programmed instruction. Initially, no minimal language level was expected or assumed. Only the capacity to benefit from the program was assumed. It was hoped that each child could eventually progress at his own rate, and that the steps within the program would insure a gradual but continuous development of language usage providing the child with maximum success and minimum frustration. A program of tangible reinforcement was already in operation in the classroom. This was extended to language work in an attempt to give continuity to the child's total program.

The symbols used by Roberts were modified slightly to avoid confusion between the numbers used as language symbols by Roberts and the same numbers used as math symbols.

Description of the Program

A description of the language program as it was initiated this past year follows. When appropriate, comments evaluating the program will be made.

A. September to November

1. Evaluation of the needs of the class.
2. Initiation of a program of tangible reinforcement of satisfactory behavior.
3. Development of reading recognition of the following 15 words through traditional methods, including simple drill work:

Simon	baby	walked
Richard	man	ran
Norman	boy	jumped
Leslie	girl	sat
Larry	cat	
	gerbil	

B. November to January

1. Introduction of the 1 - 2 sentence pattern.

Starting with group work, the teacher gave commands to a child by means of signs, speech, and/or the printed word. The child performed the action and he or another child or the teacher manipulated printed cards into slots on a chart board which indicated the correct sentence pattern.

e.g. Simon ran. (These symbols are marked on slots into which cards are placed.)

① ＝2

This exercise introduces the idea of sentence patterns, the importance of word order in sentences, the first two symbols ① and ＝2, and punctuation.

2. Introduction of the pronoun "I".

Same type of exercise was used (commands using action verbs), but the child had to change his name to the pronoun "I".

3. Introduction of the determiner "the" and its symbol, "△d", in the ① ＝2 sentence pattern.

This was first introduced in either a group or individual situation using pictures as stimuli and manipulating cards as responses. At this point seatwork was successfully introduced and the children could work more at their own pace. It should be noted that the children were not yet ready to spell these words which they could read and manipulate, so all seatwork had to provide a way that they could either manipulate the printed word (e.g., cut out and paste the appropriate word in a pre-structured sentence pattern) or copy the words from a readily available source.

In the following seatwork examples, note the possibility of gradually introducing the determiner either in a two-step progression, or all in one step as the needs of the child demand. The examples assume that a source of labeled vocabulary words is readily available for the child to refer to if he needs it.

Examples of seatwork:

Then in a later worksheet:

4. Introduction of the connective (and), its symbol (∩) and introduction of the idea of a compound subject.

This also introduces the use of more than one determiner in the same sentence. The same methods were used to teach this as the other principles.

5. Introduction of the sentence pattern (1) 2-0 (1) by introducing the verb "have".

News and action work as well as seatwork were employed in teaching this new pattern. Several new principles were introduced at this point. With the introduction of a new sentence pattern, the students had to make a choice as to which to employ in a given situation. It became apparent that it was highly important to contrast the differences between the two very carefully to enable students to choose the appropriate pattern. The verb "have" was introduced and several other new vocabulary words were needed to permit the construction of more meaningful and varied sentences. The determiner (a) was introduced in a new position in the pattern, and two different (1) words had to be handled in the same sentence pattern. The latter created new difficulties in word order and in understanding the language involved.

Evaluation: The choice of the verb "have" for introducing this important principle was unfortunate. "Have" is a unique verb in many ways and really needs special treatment. It was a particularly poor choice here because the essential differences between the first and second sentence patterns are not clearly illustrated. Use of action verbs such as, "hit", "kicked", or "ate", better define the meaningful relationship of the words to each other in the sentence pattern. The contrasting usage between the two patterns sharpens as the difference between the transitive and intransitive verbs becomes meaningful.

6. Continued practice in sentence pattern (1) 2-0 (1) using the verbs "want" and "see".

Evaluation: It quickly became clear that the children did not really understand the essentials of the sentence pattern. A period of review was initiated.

C. January to February

1. Testing and re-evaluation of the total program.
2. Addition of a Teacher Assistant.
3. Re-organization on rotating schedule.
4. Addition of two new language groups to begin the program.

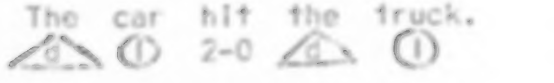
D. February to June

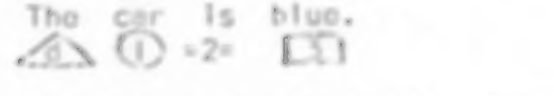
1. Activities of the original class:
   a. The original class was introduced to the action verbs "hit", "kicked". and "ate"; and to a few new nouns. The sentence pattern ① 2-0 ① was reintroduced successfully.
   b. Reading was introduced on an individual basis to students in this class. New vocabulary words were drawn primarily from the Bank Street Reader series.
   c. Testing for the internalization of the concept of classification of , ①, and 2 words by sorting unlabled words into boxes labeled , ①, and 2.

      Evaluation: Most students demonstrated understanding of the classification process.
   d. Introduction of new sentence pattern ① =2= [3]
      The symbol =2= represents forms of the verb "to be"; the symbol [3] represents the "adjective".
   e. The transformation of the [3] to the modifier position was introduced.
      e.g. From "The cat is black," to

      "The black cat _____ ."

      Evaluation: Both structures were rapidly understood by the students.
   f. Exercises using pictures as stimuli were introduced to contrast sentence patterns and to practice transformation. For example, one stimulus was a picture of a blue car hitting a truck and might have elicited the following language from the child:

      Note: It became possible at this point to eliminate some of the earlier teacher-imposed structure. The objective of the student changed from filling in a teacher-imposed sentence pattern to producing an original and appropriate sentence pattern himself.

It was at this point that the faster group began to produce notable better work than the other groups. Two important changes in procedure were introduced then:

1. Instruction changed from a highly structured approach to one more in keeping with creative free expression. Stimuli became more complex and individual (film strips, movies. trips, etc.) allowing the generation of a variety of ideas and language construction.
2. Labeling of the words in a sentence became the students' task. In fact, labeling itself took on different functions with different children depending on their individual need for the structure it offered.

g. Identification of the three basic sentence patterns was introduced.

2. Activities of the new class:
   a. Introduction of the ① 2 pattern.
   b. Introduction of the pronoun "I".
   c. Introduction of the determiner (the) and its symbol △d.
   d. Introduction of the connective (and) and its symbol (U).
   e. Introduction of the sentence pattern ①: 2-0 ① with action verbs.
   f. Testing for the internalization of classification of △d ① 2 . At this point, the new class broke down into two subgroups on the basis of speed of comprehension of the material. The slower group completed only through "i" below, while the faster group completed through "j".
   g. Introduction of the sentence pattern ① =2= [5] .
   h. Transformation of [5] words to modifier position (as in IV.I.e. above.)
   i. Introduction of prepositions (P) and the phrase P △d ① . The output of the fast group suggested their readiness for the use of prepositional phrases. Consequently, this construction was introduced:

"The cow rode on the boat."
△d ① 2 P △d ①

The reason for the somewhat lengthy description of these two approaches to teaching language is primarily to indicate the directions we have been led into by our experiences with the project. One might ask, "If each is so apparently successful, why not use one or the other, to maintain a greater degree of consistency?" Essentially, the answer is that neither can be utilized with certain age groups. The Simmons' "natural language" approach presumes that the child has developed no first language system. Many young deaf children have some rudiments of language, most have a rudimentary communication system by which they are able to express needs, but very few have developed a first language per se. The exceptions to this are generally deaf children of deaf parents who utilize sign language and fingerspelling as their first language system.

During the past year, we attempted utilization of the Simmons' approach with selected older students, with almost no positive results. It is therefore apparent that this approach is best utilized with beginning children.

The Roberts' approach seems to be most effective with children who have developed a first language under traditional methods of instruction of the deaf, but whose language cannot be considered "straight" language in terms of English syntax and structure. As indicated in the description of the activities of the classes utilizing a modified Roberts, this can be most helpful as a corrective measure to assist students to utilize English properly.

V. Findings: Phase II

Social Work

In an exploratory area such as the social work phase, it is not possible to report specific "findings" in terms of children's progress, parent progress, etc. Therefore, we will report on the activities of the social worker and on our assessment of the efficacy of her work.

The outline of the social worker's responsibilities gives a good overview of the activities which she was engaged in during the semester.

Initially, she spent about two weeks visiting classes, getting acquainted with children and teachers and reading the folders of the children. During discussions in this period of time, it was decided that her beginning activities and contacts with parents should take the form of identifying needs for concrete services and locating resources to meet these needs. One potential indicator of problems in the home is a high absentee rate. The social worker, therefore, started contacting the parents of all children who had high absenteeism. From these contacts, several health, housing, and management problems were identified. Identification of these problem areas enabled the social worker to begin working with parents to meet these needs.

Examples of the kinds of services she performed in this area include arranging appointments for a child who required surgery for a hernia, which the mother had been unable to follow through on; scheduling optometric and dental appointments for children whose parents had not done so; arranging for a family with three deaf-orthopedically handicapped children to obtain protective helmets to help prevent serious injury when the children fell while running or climbing stairs; assisting parents in obtaining public housing more commensurate with their family size or school transportation needs; working directly with parents on ways of making certain that children were in school regularly by helping to arrange for baby-sitters, by changing bus stops, etc.

Indication of the relative success of concrete work in these areas was primarily a decreased absentee rate for some children and a greater willingness on the part of many parents to participate in school-related activities. Further, these kinds of contacts enabled parents to approach the social worker for help with other, less concete problems, such as handling discipline of their children, dealing with their feelings about having a deaf child, and others.

A second significant area of social work activity for the project was in the establishment of a parent education group. The social worker conducted the sessions, which were held every other week, in conjunction with the supervisor of the department in which most of the children were

placed. Since many of the parents of these children were known to be limited in terms of verbal ability and willingness to discuss problems, it was decided to provide a degree of structure to the group sessions by preparing topics and materials for discussion. The list of topics included:

1. "Your child's hearing aid"
2. "Games to play with your child"
3. "Practical use of simple home materials to stimulate language"
4. "Problems of discipline"
5. "Create a language story"
6. "Language activities for summer"

Attendance at the sessions was fairly regular and generally good. A total of 10 parents were invited to participate, and attendance ranged from about 50% to 80%.

It was not uncommon during the sessions for parents to utilize the opportunities presented to stray somewhat from the topics and open up areas of personal concern, which enabled the social worker to provide counseling in the group situation, as well as parent education. This led at times to opportunities for individual counseling sessions with certain parents. These sessions were held either in the home or at the school, depending upon the particular needs of the parent.

The third major area of the social worker's responsibilities was in providing consultation to classroom teachers, and responding to their requests for referral or other services on behalf of a particular child. Most of the referrals were in the same areas as those described above. i.e., housing, attendance, health, etc.

Since the social worker hired for the project was also a trained teacher of the deaf, she was able to assist the teachers and students in another significant way. She initiated a "Home Training Program" in the middle of the semester. This was done with a great deal of prior preparation of both teachers and parents. It consisted of classroom teachers going into the homes of selected students at pre-arranged times when families were together such as at breakfast, or other situations conducive to language learning. The social worker arranged her schedule so that she would take the class for the teacher, enabling the teacher to go into the home.

As the conclusion of this facet of the project, both teachers and parents felt that it was of great benefit and should be continued. We plan to attempt to incorporate it into our regular program this Fall.

As mentioned above, it is not feasible to attempt an objective evaluation of this facet of the total project. It should be considered as a pilot project, which gave indications of feasibility for future implementation on a larger scale of those aspects which seemed to be most helpful to students and families. Initially, we thought of several means of obtaining relatively objective data and discussed them with a representative of the D.C. Public School System's Department of Planning, Evaluation and Research. It was his recommendation at that time that we evaluate this phase of the project in whatever manner we felt was appropriate. In view of the type of activities and program which was conducted, only a relatively subjective evaluation can be made. In general, it can be said that the staff members who were most closely connected with this phase of the project felt that it had great potential for providing assistance to students and parents which would supplement the regular curriculum for these students.

VI. Findings: Phase III

Physical Therapy and Eurhythmics

It was indicated in a previous report that the physical therapy aspect of the project had to be restructured, in light of the altered time schedule and limited funds. During the month of September, 1969, the Kendall School physical education and eurhythmics staff assessed the physical needs of the multiply-handicapped deaf children. In order to reach more of the children than had been initially conceived, it was decided to include them in the Eurhythmics program, which was then getting underway.

The children all received instruction in the following three areas: movement education, movement skills, eurhythmics. The organization and content of this area correlates well with the school's academic curriculum for these children, thus providing additional reinforcement and motivation for participation in classroom instruction. A brief description of the significant aspects of movement education, movement skills, and eurhythmics follows.

Movement Education involves training in basic movement patterns and emphasizes psychomotor and perceptual-motor development, integration of gross movements for purposeful activity, and is the basis for any school's physical education program. There are several areas of primary significance in movement education. Motor Patterns refers to the external, observable movement a person performs in handling the body or other objects. Movement Exploration is the process an individual goes through in learning movement through progressively more self-initiated and self-directed experiences. Motor Learning refers to a demonstrable, replicable change in motor performance brought about through practice, excluding maturational changes. Motor Therapy is a special form of remedial movement pattern development directed toward specific therapeutic objectives.

Movement skills emphasizes a movement or series of movements performed with a high degree of precision for the attainment of a specific objective. Movements are limited, and accuracy is stressed. Movement skills are taught in two major ways: through games and sports (relays, low-organized games, sport skills, official sports, etc.) and gymnastics (developmental exercises, tumbling, etc.).

Eurhythmics is a system of education in the arts, based on a thorough study of music and rhythm through bodily movement. It emphasizes breath and body control, pitch and volume of vocal patterns, creativity and experimentation in the utilization of one's self, and rhythmic experiences (visual, auditory or proprioceptive). The eurhythmics program divisions include music, dance, and creative drama through the improvisational technique.

Group #1

1. H. P.
2. T. P.
3. K. P.
4. J. M.
5. H. M.
6. A. B.
7. M. N.
8. C. W.
9. L. W.

The effects of multiple-handicaps to this particular group of children are two-fold: focal and generalized. The consistent interference is specific and in most cases takes the form of spasticity or paralysis (focal).

The second result of the interference is more generalized. Each of the children possesses physical and in some cases mental handicaps in addition to the focal interference. Because of damage in two or more areas (neurological disorders, perceptual-motor, complex rubella disorders) many physical activities are extremely difficult or impossible. In some cases there are areas of activities into which the child will never enter. The experiences of the child do not exist in isolation but relate to one another. Therefore, the neuro-muscular problems, deafness, perceptual-motor co-ordination, visual-motor co-ordination, psychological rigidity, are considered in the special physical education classes for the multiply-handicapped children.

The special physical education program for these specific children provides movement pattern training. This is an integral part of the total special education program at Kendall. The program developed for these specific students is concerned with instruction and improvement in the movement of some aspect of the child's behavior or learning directly related to movement.

Because the fundamental problem with this particular group of children is neurological, particular attention is given to the development of patterns. The purposeful area of motor patterns are developed utilizing tactual and kinesthetic experiences of the child. Following are the bases of the program:

Body Handling: Locomotor patterns - walk, run, hop, etc.
Purpose: Change space occupied by body

Balance: Sitting, twisting, turning, etc.
Purpose: Utilize space the body is occupying

Object Handling: (Manipulative patterns)

Propelling Patterns: Pushing, pulling, etc.
Purpose: Give force to an object to make it move

Absorbing Patterns: Catching and carrying
Purpose: Take up force of moving object and make it stop.

Obstacle courses, relays, stunts, low-organized games, barrels balance beams, climbers, scooter board activity, mini-trampoline skills and fundamental rhythmic activities supplement the basic movement pattern bases of the special physical education program.

The activities, organization, and procedures are simplified and slower for these specific students; the responses are neither easy to determine, nor are they according to expectation. The majority of the children perform at a very high level in one pattern and at an extremely low level in another. The problem is to equalize the performance in the varying patterns.

Group #2

1. S. F.
2. N. G.
3. L. H.
4. L. N.
5. R. S.

1. S. F. Appears awkward, but gross motor behavior indicates no serious problems, nor are any serious fine motor problems evident. His behavior is best described as erratic. He appears to be handicapped by severe learning disabilities with problems of attention, visual perception and memory.

2. N. G. No gross or fine motor problems noted but his slow deliberate approach to visual-motor tasks suggest some compensation factors operating. Performance in visual-motor intergration problems contrasted with straight visual perception indicate that the introduction of the motor component creates a difficulty for him. He appears to be a learning-disability child with slow learner potential. He is weak in areas of memory and conceptualization. Behavior improved over the year's work in areas of withdrawal and associability.

3. L. H. He is hyperactive and impulsive. No serious gross motor problems have been noted. His motor aspects are intact and supplemant well for deficits in the area of straight visual perception. His behavior has deteriorated and he has frequent tantrums, severe learning problems in the area or visual perception and memory, hyperactive and visually distractable.

4. L. N. L. tends to be the prototype-bully and is the acknowledged leader who constantly vies for control of the situation. His attitude toward school activities is generally positive, and he learns in both group situations and on a one to one basis. No severe gross motor problems are evident.

5. R. S. R. has a very negative behavior toward all school activities except sports. He is beginning to make slight gains and to learn in group situations. He receives no respect from his peers and has no friends. He has complex learning problems in most areas of functioning: memory, perception and conceptualization.

Physical Education Procedures for the Above Described Class:

Physical education in September was one hour of chaos. The class was non-teachable and behavior was erratic. Acceptable interaction among peers and with the teacher was non-existent. Despite the normal gross-motor efficiencies of these students, their undisciplined behavior was the greatest handicap. A twenty minute 8mm. film of physical education "action" verifies the inadequacies of team and individual learning of this class.

Two months of a non-cooperative, learning-teaching situation, resulted in a complete deviation from the normal system of organized class scheduling. A rotating program for this class made it possible for each child to participate in the physical education program, however, not with his home-room class. Social interaction was the common denominator for achievement. Each child was placed in different physical education classes in the school. Rotating visits to the gym were made at various periods during the week.

The results were positive. Being placed in classes demonstrating little or no behavioral difficulties, the difficult student was outnumbered. Co-operation, team effort and language communication improved. The desire to socialize and comprehend directions progressed. The motivational element of competition provided by the activities in three divisions of the physical education department, especially in the area of movement skills, moved the children to interact socially among themselves (homeroom class) as well as with their "rotating" peer classmates.

Group #3

1. B. B.
2. A. C.
3. D. F.
4. C. N.
5. M. S.
6. T. P.
7. J. W.

This group of Primary II students were exposed to the three divisions of the physical education program. However, experimental programs in the area of eurhythmics was of importance regarding the progressive mental and physical development of the children.

Encompassing the dimensions of fact, form,rhythm, clarification, comprehension, and inventiveness, the eurhythmics program provides training in the arts of dance, drama and music. The purpose is to give the student an opportunity to relate to and to create a universal language within a "moving" environment.

Eurhythmics supplies the stimuli for the individual and can lead to individually created work; but very early there comes the opportunity to work with others in partnership and group relationship using shared language in response to one another. This leads to the consideration of the value of the experiences which a eurhythmics program provides. Body mechanics through performance, rhythmic-coordination, expression, and the ability to initiate or to subject one's ideas to those of another are positive results. In this specific case in which children are without one of their major senses, other senses are heightened. The children are capable of movement through sight and feeling; therefore, freedom of body mechanics and creativity of the mind is possible.

All of the classes at Kendall are introduced to the eurhythmics program. This particular group of over-active, inquisitive children are examples of this exposure.

Dance:
a. body awareness, personal space, shapes of body, directness, strength and lightness, qualities of movement, partner and group relationships, spatial relationship
b. folk dancing
c. tap dancing

Music:
a. introduction to percussion; drum, piano
b. lummy sticks; create own instruments
c. musical scale and rhythm techniques, breath control combined with speech patterns, etc.

205

The emphasis for this class was creative drama. A pilot project was initiated in October, 1969, with a teacher from the Washington Theatre Club who taught 30 Kendall School students. The seven areas studied were: improvisational techniques of teaching drama using music, costumes, words, poems, paintings and modelling and other varieties of stimuli. The goal of this technique is to find the essence of each child; to become involved with the individual in a total personal relationship with his environment - providing security and awareness of himself as a unique person. The language deficiencies which prevent the students from expressing themselves in conventional communication media, are possible through this drama technique.

Group #4

1. M. L.
2. W. B.
3. R. P.
4. A. C.
5. A. M.
5. K. G.

The emphasis with this group of students was in the movement pattern program in preparation for movement skills. In addition, four units of eurhythmic training were integrated into the pattern-skill schedule. Two particular techniques were used to instruct the pattern-skills to this group of intermediate students.

1. Problem-Solving Technique

This refers to the process undergone by the individual in the learning situation, not by the person teaching. It involves bringing learning from past experiences together in a new and varied frame-work to solve problems. Problems are solved in a number of ways. Problem-solving includes varied ways of attacking the same problem and a suitable multiple application of the same solution in varied problems.

Any movement performed either voluntarily or involuntarily by the child which involves either an unfamiliar element or a familiar element are used in different ways. Examples are: change of pace, exploration, experimentation, and adaptability related to problem-solving movements. With this group of children, the technique works especially well with a number of relays, games, stunts, low-organized activity, leading to team sports.

2. The Exploration and Experimentation Technique

Some problem-solving situations offer less opportunity for experimentation or exploration than others. In many cases involving these students, it is necessary to focus on problem-solving situations allowing much exploration and experimentation rather than focus specifically upon the experimentation itself. The role of the teacher is to see that the children have as many opportunities to move and explore their environment and experiment with movement within spatial relationships.

Students in this class actually instruct and control physical activities during class period. Initiative, independence, comprehension, motor performance, creativity are qualities desired and usually received within this indirect-teaching environment.

The prupose of applying these two methods in particular to this specific group of students is to give physical and mental opportunity for individual and group effort and expression. Permission of variation and adaptability allow the student to play, progress, use all basic movement patterns, combining skills with expression.

READINESS

Skills:

I. Classification

II. Picture Interpretation

III. Visual Discrimination

IV. Memory

V. Sequencing

VI. Making Analogies

VII. Motor Ability

VIII. Matching

VII. EVALUATION OF THE ACADEMIC PROGRESS OF THIRTY-FOUR MULTIPHY-HANDICAPPED DEAF STUDENTS

Ratings were compiled on the academic progress of thirty-four multiply-handicapped deaf children who were involved in the project. The ratings were completed by objective evaluators who had no connection with the project and who did not know the children. Two sources of data were utilized to evaluate their academic progress. The first source was the year-end teacher report on each child for June, 1969, and June, 1970. This report uses a grading scale of 1 to 9 to indicate "poor" to "very superior" performance. The average grade point for three areas of concern was computed (Language, Reading, and General Academic Performance). 1969 and 1970 scores in these three areas were compared to ascertain the degree of progress. Difference scores were placed on a 4-point rating scale, as follows:

	0	1	2	3
	no progress	poor progress	average progress	good progress
Teacher Report Difference Scores	-.5 to 0.4	0.5 to 1.4	1.5 to 2.4	2.5 to 3.4

The second source of data was the grade equivalency score of each student on the Metropolitan Achievement Test which was administered in May, 1969, and again in May, 1970. Difference scores were computed and rated on a 4-point rating scale as follows:

	0	1	2	3
	no progress	poor progress	average progress	good progress
Grade Equivalent Difference Scores	-.5 to 0	.1 to .33	.34 to .65	.66 up

---

TABLE 1: Summary of Ratings of Teacher Reports on 34 Multiply-Handicapped Deaf Children

	Language	Reading	General Academic Progress
(0) No Progress	20	20	18
(1) Poor Progress	9	6	8
(2) Average Progress	2	3	6
(3) Good Progress	3	5	2

209

TABLE II: Summary of Ratings of Achievement Test Data on 20 Multiply-Handicapped Deaf Children*

	Language	Reading	General Academic Progress
(0) No Progress	6	8	4
(1) Poor Progress	10	8	7
(2) Average Progress	4	2	5
(3) Good Progress	0	2	4

*The reason for the decreased size of the sample in this table is that only 20 of the 34 children in the project were testable utilizing standardized achievement tests. Comparison of the two tables indicates that the "No Progress" row in Table I probably contained most of the untestable children.

The data presented in Tables I and II are inconclusive in terms of giving definitive indications of the effects of the project. The trends appear to be in the direction of positive academic growth, as indicated by the distribution of ratings in Table II. However, there is a core group of children in the "No Progress" row of Table I who have not been reached by the project to a measurable extent. As indicated in the body of the report, Kendall School is continuing its efforts to reach these children and to provide them with academic experiences commensurate with the level of their intellectual potential.

Language Curriculum Guidelines
and
Sample Classroom Materials
For Multiply-Handicapped Deaf Students

Contents

Readiness - Outline and Samples

Level I Chart

Nouns

Verbs and Samples

Adjectival Modifiers and Samples

Adverbial Modifiers

Pronouns and Samples

Prepositions and Samples

Contractions

Capitalization and Punctuation

Natural Expression

Connected Language

I. Classification

A. Procedure

These are the suggested categories for teaching the classification or grouping of words or concepts. The attached worksheets are offered as samples of the sort of sheets the teacher may make up.

1. things to eat
   things to wear
   things to play with
2. in school
   at home
   on the street
3. colors
4. numbers
*5. transportation

B. Suggested Materials

1. Filmstrip AF 10, Classifying*
2. Children's books: Many children's dictionaries, such as Richard Scarry's Storybook Dictionary (423 528): Ellen Walpole's The Golden Dictionary (423 W21E); B. Parker's The Golden Book Encyclopedia (R 030 p 23g) group many categories.
3. Worksheets

II. Picture Interpretation

A. Procedure

Large pictures, such as the Bank Street Reader pictures, study prints, slides, frames from filmstrips, transparencies, and activity sheets may be used for picture interpretation and description. The children are asked to:

1. Name objects: a ball, a tree, etc.
2. Describe action: The girl is playing.
3. Draw inferences:
   a. Mood: The boy is sad.
   b. Time: It is morning.
   c. Place: They are in school.
4. Predict outcome (What do you think will happen?)
5. Identify characteristics:
   a. Color: A red hat
   b. Size: A big ball
   c. Shape: A round table
   d. Number: Seven apples

*Filmstrips are coded for internal use at Kendall School. For information on obtaining any filmstrip mentioned herein, contact the school.

B. Suggested Materials

1. AD 49: Roy's Toys
2. AE 3: Going Shopping
3. AE 2: Playing Community Helper
4. AD 42: Going to the Country
5. AD 37: Going Places
6. AD 38: Going Downtown
7. AD 44: Going to the Zoo
8. AK 37: After School
9. AK 39: Inside the School
10. AK 42: In and Out of the Classroom

See sample worksheets

III. Visual Discrimination

A. Procedure

1. What's Wrong?
   Have child point out absurdity in a picture presented by teacher. Let child try to explain why it is absurd.
2. What's Missing?
   Show child pictures or objects with missing part. Let him draw in the missing part.
3. Likenesses and Differences.
   Child finds the object(s) or design(s) that are alike or different in a given series.

B. Suggested Materials

1. AD 49: What's Wrong?
2. AF 12: Similarity
3. AF 14: Differences
4. AF 8: Visual Discrimination

See sample worksheets

IV. Memory

Remembering or reproducing an original pattern or design after all or part of it has been removed.

A. Procedure

1. Visual: Teacher draws a pattern; removes part of all; child replaces it.

2. Auditory: Teacher gives auditory pattern with child's back turned; child repeats.
3. Kinesthetic: Teacher demonstrates a hand or leg movement pattern as in dance; child repeats.

B. Suggested Materials

1. Records
2. Piano
3. Drums
4. Tambourine

V. Sequencing

A. Procedure

1. Order: Putting scrambled pictures of objects in correct order.
2. Choosing alternatives:
   a. Deciding on the better alternative: Choose the better of two ways a child can get his ball from the roof - with a ladder or with a rock.
   b. Choosing an appropriate ending for a story or group of pictures.

B. Suggested Materials

Comic strips cut into sections
Teacher-made cartoons

See sample worksheets

VI. Analogies

A. Procedure

Find a resemblance between things otherwise unlike. They may be the same as to use, time, etc.

1. Function: pencil-writes; crayon-colors
2. Opposites: day-light; night-dark
3. Part to whole: leaf-tree; seed-fruit

B. Suggested Material

See seatwork samples

VII. Motor Ability

A. Procedure

1. Tracing
2. Rhythm
3. Throw and catch
4. Reproducing
5. Coloring
6. Molding clay
7. Cutting
8. Left to right
9. Finger painting

B. Suggested Materials

1. Coloring books.
2. Frostig Visual Perception Program
3. Drum
4. Ball
5. Jump rope

See samples from worksheets

VIII. Matching

A. Procedure

The child at the very beginning should be able to find like pictures and objects. Many will be able to match these to their functioning: soap to a picture of a child washing his hands. These should always be accompanied by the written vocabulary even before the child is expected to read. Examples of the various activities are matching

1. Picture to picture
2. Word to word
3. Word to picture
4. Word to object
5. Picture to object
6. Picture to function
7. Object to object
8. Object to function
9. Word(s) to function
10. Object to object

B. Suggested Materials

1. Continental Press ditto masters
2. Small toys
3. Puzzles

215

See seatwork samples

Contractions

Contractions should be used in conjunction with teaching personal pronouns and the verb forms of to be (am, are, is). Children should be exposed to contracted words as soon as possible. In news work, for example, teacher may begin to write contraction of words (she'll, he's, I'm). However, try to cause any confusion by using contractions if verbs have not been taught or if you are in the process of teaching the usage of any goven verb.

At the beginning level, children should be taught to us contractions primarily in speech. Do not encourage children to write any contractions at this level. It is enough that they should begin to realize that in talking we sometimes put words together to make a shorter word - I am or I'm - but ways are correct.

At Level II, begin to do some written work with contractions. Following are some suggested examples:

I am	I'm
it is	it's
he is	he's
she is	she's
you are	ycu're
we are	we're
I won't	I will not

Possibly the easiest way to begin the usage of contractions would be in calendar and weather work.

"it is - it's" and "I am - I'm"

It is hot	It's hot
I am hot	I'm hot

As each pronoun is learned, it may be used in contracted form. As the children use these contraction, the negative may also be introduced. The teacher might work from the previous learned affirmative contractions to the negative contraction.

A.	It is hot.	It's hot.
B.	It is not hot.	It's not hot.
C.	I do not know.	I don't know.

Introduce the use of the apostrophe when beginning to teach the writing of contractions. Apostrophes may also be introduced with possessive forms. If this has been taught, explain that in contracted words, the apostrophe is used to show that one letter has been left out. Contrast with use of apostrophes in possessive forms. For example:

John's coat is blue.
Sally's mother is sick.
John's coat is not blue. It is brown.
John's coat isn't blue. It's brown.

Develop from simple to complex.

One way of showing the "constructing" of a contraction is the use of cut-out letters, with appropriate punctuations. Let children manipulate letters to form words and contractions of those words. This may be done individually or on the overhead.

After the initial exposure and introduction to contracted forms, the teacher may develop and expand this work as it is necessary and meaningful for the class.

Capitalization and Punctuation

I. Capitalization

Beginning of sentences
Beginning of lines of verses
Names of cities and states
Names of months, days of week
Mr., Mrs., Dr., I
Names of persons
Titles of stories

II. Punctuation

Periods - at end of sentences in abbreviations
Question marks - at end of questions
Exclamation points - as needed by teacher and students
Comma - used by teacher, while children help, to show series and in dates
Apostrophes - to show possession or contraction

Natural Expressions

Many expressions listed here will be learned through use in situations requiring them. It may be necessary, though, to teach many of them directly.

Greetings and Farewells

Hello.
Hi.
Good morning.

Hello_____.
Goodbye.
'Bye.

Courtesy

Please.
Thank you.
You're welcome.

Excuse me, please.
Please help me.
No, thank you.

Request

(Try to use "please" with these very often.)

Come here.
Hurry up, please.
Please don't bother me
Don't do that.
Be quiet.

Please wait.
Come on.
Stop that.
Give me_____.

Greetings for Special Days

Happy birthday.
Merry Christmas.
Happy New Year.

Congratulations!
Have a nice vacation. (weekend, holiday)

General

I forgot.
I don't know
That's funny.
I like that.

Yes.
O. K.
No.
I know

I'm fooling.
That's mine.
That's nice.
That's neat.

Answers to "How are you?"

I'm fine, thank you.
I'm cold.

I'm hungry.
I'm sleepy.

"How do you feel?"

Fine, thank you.
I feel sick.

I'm tired.

Answers to These Questions

What's your name?
Where do you live?
How old are you?
What did you do?
Where did you go?
Who is your teacher?
What is your room number?
What happened?
What is your address?
How do you know?
What did you say?

Connected Language

I. Sentence Patterns

(These patterns are outlined in the Junior High School 47 curriculum. They are also essentially the same as those outlined in Book I of the Roberts English series.)

1. Simple subject, simple verb.
2. Subject, verb, direct object.
3. Subject, verb, predicate word.
4. Subject, verb, adverbial phrase.
5. Compound subject, verb.
6. Imperative sentence form.
7. Subject, verb, indirect object, direct object.

II. Communication Period

May we suggest that you open your classes each morning with a period of informal "conversation."

Begin by calling the roll. Have the students answer, "Here," or "He's not here." Proceed to a discussion of news (about the students, about you, or about the world at large), to a show and tell time, or to a review of the school events of yesterday.

Any kind of language is acceptable from less verbal children. Do not have children write individual news on the board one at a time. Let them tell it. The teacher can write it quickly and correctly on newsprint or on side board. It can be reviewed later in the day as a reading exercise, and the best of it kept for a newspaper. Children can illustrate it after rereading.

A major objective is to save learning time for the other members of a class who usually sit doing nothing while one struggles miserably at the board. A second objective is to avoid the "Yesterday was Tuesday," "I watched T. V.," stereotype which teaches just about nothing and discourages any kind of imagination.

Please don't spend more than 10 of 15 minutes discussing the calendar or the weather (unless it's snowing or we're having a hurricane). Write the word yesterday and by pictures (Polaroid shots taken the day before might help) or words, discuss yesterday. Then discuss today, then tomorrow. Show them the calendar, but don't expect them to understand the meaning of all of those little boxes. Don't require correct spelling of words like Wednesday and Thursday at this level. They need too many other words.

Put a great deal of emphasis on drama in these communication sessions. A supply of props and costumes for story-telling may be useful. Perhaps the children can be grouped sometimes, permitted a private practice session,

and then allowed to act out what everybody did when Sammy fell off his bike, or when Linda went to the shoe store. This will keep all of them actively involved and give you a lot of insight into the vocabularly and natural expressions they need. If a child seems absolutely devoid of news, ask him to act out a filmstrip he's seen or perhaps something he learned in science.

For motivation you might occasionally sketch a television screen on the board behind the story teller and tell him he's on T. V. Even the weather might be fun this way, and you could use some idioms: Turn on, turn off the T. V. Sometimes a large make-believe clock, manipulated by the teacher, is a useful way of showing an extrovert that he has used up his share of the time (turn off the T. V.) Dittoed newspapers, however informal, are great motivators. Even if the teacher has to write most of the news, the papers are read acarefully. They may be the only things that are read.

The students should learn to tell news at home, too. We can help them by giving them Polaroid shots and brief written explanations to take home. This would encourage more communication with the parents, so that we in turn would have a clearer picture of what happens to the children after 3 o'clock.

III. Suggested Activities for Enriching Connected Language

General Guidelines

A. Models

Making miniature models of past or present-day life situations initiates classroom ideas for oral, manual and written languages.

B. Field Trips

An excellent mode of giving realistic and interesting experiences to any class providing teacher-pupil preparation has been done.

C. Things that Work.

Toys, simple experiments, etc., that can be manipulated and made by children are useful in motivating the need for language.

D. Interest Centers

This idea can be created from the first day of school in setting up tables with materials, objects, etc. that children may browse over. As the year progresses, tables may be labeled -- Reading, Art, Science, etc. Tables may be changed or modified as needed.

E. Graphic Materials

Materials may be used such as charts, graphs, etc., either commercially, teacher, or pupil prepared.

F. Bulletin Boards

Displaying in attractive form pictures, charts, and other materials relating to current classroom study is helpful.

G. Maps and Globes

Using materials such as paper-mache, children may develop better understanding of school, home and community by making simple maps and globes.

H. Group Discussion

At the primary level, well prepared teacher questions will often spark group participation.

I. Role Playing or Dramatization

Acting our various situations gives the children an active role in participation and can be a device for evaluating individual pupils' understanding of a given concept.

J. Individual and Class Notebooks

Well organized notebooks can be a key for patterning, recording information and classifying. Notebooks should be kept in classroom until a unit has been completed. Teacher may choose to organize by subjects or generally. Encourage children to be proud of their accomplishments regardless of how small they may be.

IV. Special Projects and Games

A. Making a Neighborhood

1. Materials needed:

Construction paper (all colors)
Scissors
Glue
Pencils
Crayons
Ruler
Wrapping paper

2. What to do:

Make a house -

Make 8-inch square and cut out.

Fold the square in half both ways opening the paper after each fold; then, fold each edge to middle line and open. You should have 16 square folds.

Cut, fold and paste C on B, A on D, G on F and E on H. The end result should be a box-like house.

For a different color roof, cover top with a 4" x 5" piece of paper fold and glue in place.

3. Variations:

Make an 8-inch house.

Make a 9-inch and a 6-inch house and glue together for one large house or several large houses.

Draw on bricks or stones with white crayon.

Paste clear cellophane inside windows for window panes.

Make a chimney.

Make a church.

Department stores, firehouses, etc. can be made.

Hedges and shrubbery

Use natural sponges for shrubbery and cellulose sponges for hedges - cut into one-half inch strips.

Dye sponges green by dipping into tempera paint. Dry without squeezing and paste them to the neighborhood plan. Glue a sponge on an empty spool to make a small tree.

B. Primary Language Games

1. Modified from Language Games, Wagner, Hosier and Blackman, Grade Teacher Publication.

a. Guess what it is (group)

Objective: To give practice in observation and description.

One child is chosen to be "it". He thinks of an object in the room (or on a table). Without letting anyone know what he chose, he tries to describe it. The first one to guess what the child is describing gets to be "it."

Variation: Several objects may be placed in a bag, first letting children observe. "It" closes his eyes and tries to guess.

b. Picture stories (group)

Objective: To provide practice in telling a story based upon interesting picture.

Materials: Several teacher-made sets of pictures mounted separately on piece of heavy paper or cardboard.

Give each child player a different set of pictures. Player must put pictures in order and tell a story.

c. Matcho (group or individual)

Objective: To provide motivated practice in learning new vocabulary and spelling.

Materials: Envelopes, each containing one picture with its name below in manuscript. Corresponding envelopes containing enough letters to match the letter in each name. eg: a ball; "a" "b" "a" "l" "l"

Each child is given an envelope containing a title picture. The child takes the letters of the alphabet from a separate envelope and selects the correct letters to place under the letters of the picture name.

Variations:

For reading readiness, words could be matched with the picture name.

Two children could work together in matching a given picture.

Caution: Children should be able to read the name of the picture so the matching name will have meaning.

d. My Word Book (individual)

Objective: To help children become spelling and writing conscious.

Materials:

Chalkboard and chalk
Primary writing paper
Pencils
Word List booklets
Commercial primary dictionaries
Pictured alphabet cards

As soon as a child has established a basic sight vocabulary (10 or more words), give him a "word book" (teacher-made) containing a list of words he has learned. (Words may be categorized who, what, etc., or alphabetized.)

For independent work, a child may go to the board and/or write on primary paper one or two sentences using the words he has learned.

See Betty jump.

John can run. etc.

The above may be expanded and made more complex. A child who has difficulty becoming sentence -, spelling-, and story-conscious may need to copy sentences suggested by himself or the teacher until he can make a start in independent work.

e. Pocket words (group or individual)

Objective: To help children learn to recognize differences in word categories (who-what-verb) or beginning sounds.

Materials:

Large chart spaced to make 26 pockets large enough to hold 3 by 5 inch cards. (one pocket for each alphabet or category.)

3 by 5 inch cards on which are written previously taught vocabulary words and/or pictures.

After motivation preparatory to this kind of game, the teacher says, "Here are some words written on cards,

you may know them. With what letter does "animal" begin? Yes, it starts with "a" so I'll put it in the pocket."

Each child is given a turn at telling where cards belong until all cards have been placed.

Variations: Add new words as they come up so chart continues to be useful.

Children may make individual collections using notebooks, boxes, or manila expansion envelopes.

f. Capture (Individual worksheets)

Objectives: To match the alphabet with names of animals that might be found in a zoo, or match alphabet to verbs, objects, etc.

Materials: Duplicated sheets.

Children are given sheets and tole to "capture" an animal for each cage. Write the animals name in the box under the alphabet with which it begins. Explain that some boxes may be left empty if there are no animals to match the alphabet.

g. After you, Sir (group dramatization)

Objective: To teach a child to place the pronoun referring to himself last in a series.

Teacher: Let's pretend that we went to a circus. (use children's name in class and pair them - John and Mary, Sally and Jim.) Whom did you walk with Mary?

Mary: John and I walked.

Teacher: John?

John: Mary and I walked., etc.

This game can be more meaningful if actual experiences are used - special events, field trips, etc.

h. Ask or tell (group)

Objective: To help children distinguish between a "telling' and "asking" sentence.

Use overhead, write several statements and questions.
Teacher reads a sentence and the children take turns saying whether it's an asking or telling sentence.
One point is given for each correct response. Most points win.

i. Who did it: (group)

Objective: To provide oral practice in correct usage.

One child, chosen to be "it" is blindfolded. Another child is selected to be a "pointer." The "pointer" points to a child to come up and touch "it".

"It" "Someone touched me." ("It" removes blindfold)

"Pointer: "Who did it?"

"It" "Mary did it."

"Pointer: "No, Mary didn't do it."

"It" "John did it."

The game continues until "it" guesses the child who touched him. Both "it" and the pointer choose other children to take their places and the game continues.

The teacher should be the first pointer in order to make the game better understood.

j. Pass the book (group)

Objective: To provide practice in using give and gave.

Review the use of the verbs give and gave. The teacher then passes the book to Tom, saying, "Mary gave me the book. I will give it to you. Please give it to Jane." As the book is passed, each child gives the above information to the one to whom he passes it.

"_____gave me the book."

"Please give it to_____."

Variation: Sentence forms similar to those used in the game may be duplicated for written work.

This game may be adapted to meet needs for practice with:

saw - seen	went - gone
come - came	did - done - etc.

Prepositions

I. Suggested List

to	on	over	down
in	under	with	up

II. Usage

A. Used to show location

to the door
in the box
under a chair
on the table
over the chair

B. To: followed by a person's name or a pronoun.

Give it to Jane.

C. With: followed by a person's name or a pronoun.

Play with Johnny.

III. Activities

A. Action Work

Using action verbs previously worked on, give a written command to child to perform an action. Other children may judge if he performed correctly. Children may be teacher.

Hop to the door.
Sit under the table.
Jump over the bos., etc.

B. Use prepositional phrases whenever it is natural to do so in writing news, etc.

C. In reading, ask children to illustrate or otherwise explain any prepositions or prepositional phrases they come across.

D. Make transparencies and worksheets to reinforce prepositions. The following worksheets correlate prepositions with reading material in the Bank Street Readers and with social studies material. Some of the worksheets are more flexible than others, leaving response mode up to the teacher. In general, worksheets should go from word to phrase to sentence; from recognition to copying, to writing from memory.

ADJECTIVAL MODIFIERS

Simple Adjectives
Comparisons
Special Adjectives

I. Descriptive Adjectives

A. Suggested List

1. Articles (an, a, the)

2. Numbers (one-six)

3. Colors

black	purple
blue	red
brown	white
green	yellow

4. Others

big-little	pretty
cold-hot	tired
funny	sick-well
cross-happy	sore
good-bad	wet
old-new	

B. Adjective Sequence

1. How many: What color: What: a red car

2. How many: What kind of: What: two pretty dresses

3. How many: What kind of: What color: What: some big yellow flowers

4. Whose: What color: What: George's blue shirt

5. Whose: What kind of: What: his funny hat

C. Usage

1. Adjective precedes noun; a pretty dress

2. Predicate adjective: I am happy

D. Teaching Activities

1. Make charts headed HOW MANY, WHAT COLOR, WHAT KIND OF.

   a. Children may fill in the charts with labeled pictures and add to it during the year.

   b. Give charts and worksheets to each child to keep in a notebook.

2. Teach number adjectives in conjunction with singular and plural nouns. (See adjective worksheets.)

3. Devise worksheets for color adjectives.

4. Combine color and number activities.

5. To practice proper word order of color and number, put simple pictures on laminated sheets for child to label (using cards or printing labels himself). This should be presented in group and then used for independent work. This same activity can of course be used for number alone, color, alone, or descriptive (i.e. pretty, big) adjectives can be included.

6. In teaching "What kind" adjectives, have children dramatize from flashcards.

sick	happy
well	sad
cross	

7. Devise worksheets for "What kind" adjectives.

   a. Contrast opposites.

   b. Combine with work on other language principles.

   c. Give picture situations and ask children to label with appropriate adjectives.

8. Combine color and kind. (A happy brown dog.)

A. Specific Goals

1. Regular comparisons of adjectives already taught (for recognition only.)

a. Tall, taller

b. Short, shorter

2. Spelling of above by rote.

3. Use of:

a. Too _____

b. Very_____

4. Use of more (Who has more candy?)

B. Teaching Activities

1. Use children or objects in the room. Write the question "Which_____is_____er?" Decide appropriate answer.

2. Devise worksheets for work in simple comparisons. (See adj. worksheets.)

3. Devise more complicated worksheets using mostly verbal stimuli.

4. Devise special worksheets for MORE.

5. Use too and very with an adjective when natural. Make

III. Special Adjectives

A. List

some	this	these
many	that	those

B. Teaching Activities

1. This, that, these, and those should be taught informally for recognition only. Use them naturally but do not expect children to generate sentences using them.

2. Some

a. Teach initially with noncount nouns.

1) Blindfold child. Have some objects and a glass of water. Have him determine by feel how many objects there are. Write down 2____, 3_____, etc.

Then place his hand in the water. He will realize no specific number can be applied. Give the word some and write some water. Repeat with other noncount nouns (sugar, sand).

b. Make worksheets to reinforce this concept.

c. Use in rote question, "May I have some_____?"

3. Many__

a. Use to indicate count nouns so numerous we can't or don't want to bother to count them.

b. Make worksheets contrasting many _____with a_____, one_____, two_____s, or three_____s.

CONCLUSION

The conclusions of the preceeding evaluation reports indicate that the success and impact of the services provided handicapped children by the ESEA Title III Special Education Projects have been significant. The programs provided educational experiences for children with a variety of emotional, physical and mental handicaps: some who had been excluded from school and were receiving training at home or no training at all; others who had been institutionalized; and others who had not yet entered school.

Despite the reasons for their exclusion from public schools or agencies, the children selected to participate in the projects have been contained in an educational setting and have made considerable gains. The minute gesture of a half smile from a child who has been withdrawn is a giant step in his life. To toilet train a handicapped child who lacked this training for ten or eleven years of his life must be called remarkable. Other examples such as these could be cited to attest to the success of the projects and the gains made by the children in knowledge, attitudes and skills.

Outstanding trends involving the use of aides and the introduction of precision teaching (behavior modification principles) contributed to the success of the programs. Aides who were college seniors and graduate students contributed substantially to the learning process of the children by working with individuals and groups, thus freeing the teachers for other responsibilities. Through their participation the aides received on-the-job training and experience.

In precision teaching, behavior modification principles were used. Immediate reward for approximation or successful completion of a task motivated children to repeat desirable behavior; the result was increased growth and performance of the children.

Evaluation

The emphasis on continual evaluation was desirable and warranted. Designed evaluation efforts were an integral part of the services offered to the children. These efforts lead to more accurate assessments of the children's individual needs. The director and staff members constantly evaluated their efforts and the students' progress through observational and statistical procedures as well as in staff conferences and discussions of students and curriculum.

Participating in the evaluation plan was a consultant contracted for each project by the Division of Planning, Innovation and Research Department of Research and Innovation. A staff member of the Division assisted in the general planning of the outside evaluation plan and in the evaluation of the projects.

Teacher Training

In-service teacher training programs were written into several of the project proposals. As originally conceived the training was to include the project teachers and aides as well as others interested in or involved with the training of the handicapped child. It was to focus on innovative educational techniques around which the programs were developed. For a variety of reasons training programs involving persons outside the projects were not conducted. However, project teachers and aides did participate in training conferences prior to the beginning of the programs, and some college seniors and graduate students received training by actually working with the students in several of the programs. It is significant that project plans for the coming year include plans for teacher training programs. An in-service program for D. C. Public School social adjustment teachers, and observation and follow-up seminars for college students are among those planned.

Parent Involvement

Overall the participation of parents in the projects was not very successful either because of their family commitments, their work commitments, or their lack of academic or experiential qualifications. However, all of the projects did involve some or all of the parents to some extent: through on-going written reports, through discussions with the teachers, through visitations of the parents to the projects to either observe or participate in some way in the projects. In one project a parent group was organized. In another the failure of parent involvement was attributed to a lack of a pre-conceived design for parent participation.

It seems reasonable to say that although involvement of parents was on the whole minimal, the project staff members and directors did make sincere efforts to include them in some way in the implementation of the programs.

Dissemination

To create an awareness of need and to share educational information the directors and staff of the program disseminated information during the implementation of each project as well as upon completion of the fiscal year 1970. Newsletters, reports, television, a photographer who filmed classes for documentary purposes, invitations to visit the projects, telephone responses, and written communications have been used as dissemination channels. Future plans include publishing information concerning one of the projects in the National Education Association journal or other educational journals. The directors anticipate the use of Educational Resources Information Center (ERIC), the Instructional Materials Center (IMC) Network at local universities to disseminate information. Educational Television (ETV) will be used to provide information to teachers and other professionals. Reports in special education bulletins will be distributed through the Public Schools of the District of Columbia as will papers presented to professional groups and interested community agencies and organizations.

Summary

The general impression of the consultants' evaluation of these ESEA Title III Special Education Projects is that several facets are significant: creative solutions to problems of the handicapped child have been developed; the programs are exemplary and have educational significance; it is reasonable to believe that incorporation of the techniques into public educational programs is possible.